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CONSUMER GOODS AND DOMESTIC TRADE

EDITORIAL ON CONSUMER GOODS

Tbilisi ZARYA VOSTOKA in Russian 3 Jul 79 p 1

[Editorial: "Consumer Goods"]

[Text] At the 25th CPSU Congress Comrade L. I. Brezhnev designated a steady rise in the material and cultural level of the Soviet people as the highest goal of the party. Accomplishing this task is inseparably bound with fuller providing for the population's demand for various consumer goods: after all, a rise in monetary incomes still does not in itself signify an actual rise in the standard of living. That is why in this five-year plan the party attributes particular importance to expanding the production and improving the quality of these goods.

Guided by the decisions of the 25th CPSU Congress and the 25th Georgian CP Congress, the ministries and departments, production associations and enterprises in the republic have substantially increased the output of consumer goods. In three years of the five-year plan their production rose by almost 20 percent. Measures directed toward expanding their assortment and improving their quality are being carried out. Last year alone the output of goods marked with the State Seal of Quality almost doubled.

At the same time, even today there are many shortcomings in the production of consumer goods, especially commodities for cultural and everyday purposes and household appliances. The industry under the jurisdiction of the republic's Council of Ministers regularly fails to fulfill the plans for output of these commodities. Many enterprises and associations under union jurisdiction fulfill the assignments only through amending them in the direction of their decrease. This practice was corroborated, particularly, at the Gruzbytkhim Production Association, at the Kutaisi Electric Equipment Plant, at the Tbilisi Machine Tool Building Production Association, at the experimental mining plant of the Analitpribor Scientific Production Association and a number of other enterprises.

The level of manufacture of certain items leaves much to be desired. The mail to the editors has many letters in which the readers complain, with complete justification, about the quality of the industrial goods. Articles

for cultural and everyday purposes and household appliances bring forth a particularly large number of criticisms. Specifically, certain types of furniture manufactured at the enterprises of the republic's Ministry of Timber and Wood Processing Industry which are received in the trade network do not meet today's requirements and the demand of the population with respect to their technical level and commodity type, and therefore find no market. One of the reasons for this is the lack of the proper responsibility of the suppliers for the quality of the semi-finished furniture pieces. A great deal also depends in this on the industry's staff: after all, both the wood processing combines and the furniture enterprises are included in the system of the same ministry.

Shortcomings of this type also exist in other industries engaged in the output of consumer goods: there are frequent cases of return of faulty products to the ministries of Light and Local Industry, and State Standard organs are forced to employ economic sanctions against many enterprises for the output of poor-quality products. To set up strict monitoring of the adherence, by each enterprise producing consumer goods, to contractual discipline and to decisively overcome the attitude, still existing among some of the economic planners, toward the production of consumer goods as a matter of secondary importance--this is the direct duty of the local party committees. The need to activate work in this direction was once again emphasized at the recent meeting of the party aktiv in Georgia, at which there was a discussion of the problem of the republic's party organizations with respect to fulfilling the decree of the CPSU Central Committee "On a Further Improvement in Ideological and Political-Education Work."

The increasing scale of consumer goods output and the higher quality criteria require a solution to the problems that have arisen, only through the combined efforts of the collectives of various sectors of the republic's national economy. There must be an efficient, smooth work flow and well planned operations by production workers, scientists, designers and construction workers. Even today, however, nonfulfillment of the established assignments for the output of consumer goods is often caused by disruptions in the plans to modernize and expand existing enterprises with this specialty and construct new ones. In particular, last year the Georgian SSR Ministry of Construction and the republic's Ministry of Light Industry did not ensure putting into operation in full volume the capacities at the Tbilisi Knitting and Sewing Factory in Gldani and the Sovetskaya Gruziya Worsted Combine. The construction of the Bogdanovka Machine Plant of the republic's Ministry of Local Industry and the Tskhinvali Tricot Underwear Factory of the Georgian SSR Ministry of Light Industry is lagging considerably behind the schedule.

There is not always a prompt solution to problems of material-technical supply of the enterprises producing goods for cultural-everyday purposes and household appliances, which is one of the reasons for the lagging behind in providing the population with these goods. The republic's Gosplan administration is to blame for this.

One of the conditions for making possible more complete saturation of the market with high-quality products in mass demand is a constant study of consumer demand, in consideration of which the production should be efficiently improved. Meanwhile, this efficiency is by no means displayed everywhere, and as a result, the goods lie around a long time and the large amount of resources spent for their production are frozen. The trade organizations and wholesale bases should intensify their exactingness toward the production workers for the quality of the output.

Expanding the output of high-quality consumer goods that are in wide demand should be the object of constant attention for each ministry and department and each party organization. Now, when the workers in all the sectors of the republic's national economy are striving to work even more successfully, it is important to eliminate, persistently and in accordance with the plan, the shortcomings in the development of production that were noted at the CPSU Central Committee November (1978) Plenum and to put new potentials into action. This is fully applicable to the collectives of the enterprises and associations supplying business with goods in mass demand. The more successfully they begin to fulfill the planned assignments and socialist obligations, the more quickly the social tasks will be carried out that were put forth by the 25th CPSU Congress and the 25th Georgian CP Congress, aimed at a further rise in the people's well-being.

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FURTHER DEVELOPMENT OF PERSONAL PRIVATE PLOTS

Moscow SOVETSKAYA TORGOVLYA in Russian No. 6 Jun 79 pp 11-14

[Article by N. Pazukha, chief of the Planning-Economic Administration of the UkSSR Ministry of Trade, P. Pyatakova and V. Chernichko, senior scientific workers of the Council for the Study of Production Forces of the UkSSR Academy of Sciences, candidates of economic sciences: "Implementing the Decisions of the 25th CPSU Congress: An Important Source of Personal Consumption"]

[Text] Bringing the pattern of feeding the population into full compliance with scientifically sound norms is a complex socio-economic and production-technical problem, the solution of which depends chiefly upon the development of agricultural production. In connection with this, at the present level particular attention is given to making use of all capabilities and reserves of the kolkhozes, sovkhoses and specialized inter-economic enterprises, including personal private agriculture.

While personal private agriculture is a special form for the production of agricultural product under socialism, it has nothing in common with petty private agriculture. The differences are brought about by the fact that, first, personal private agriculture is conducted on the basis of personal socialist property and, second, most of the labor of the workers, employees and kolkhoz workers who have these private plots is expended in kolkhoz or sovkhos production. Therefore the owners of these private plots derive most of their incomes from public agriculture. This accounts for approximately three-fourths of a kolkhoz worker's family's income.

In spite of the fact that personal private agriculture is not collectivized or planned, it is directly connected with planned forms of socialist agricultural and industrial production. The kolkhozes and sovkhoses allocate private plots to their workers and employees and then help them in working the land; they supply them with fodder, fertilizers and so forth. In turn the agricultural product from the private plots is used in public production. The conducting of personal private agriculture, which is not connected with any special state capital expenditures, simultaneously promotes an increase in the amounts of agricultural product output, frees commerce from excess outlays brought about by the need to transport many products to

rural areas and promotes an equalizing of income levels, a growth in volume and an improvement of the pattern of consumption of various social groups of the population.

Altogether there are approximately 37 million private plots throughout the USSR, the product of which comprises more than 25 percent of the gross output of agricultural product.

Private plots of the UkSSR provide more than 28 percent of the gross product of the republic's agriculture, including approximately 35 percent of the livestock. The percentage of agricultural product produced in private plots in the Ukraine varies from 3 percent for grains and up to 66 percent of potato production. This means that the republic receives twice as many potatoes from these private plots than it does from the kolkhozes and sovkhoses.

The importance of the private plots belonging to the people of the Ukraine is borne out by the fact that in 1976 of the state purchases of agricultural product they accounted for: vegetables - 20 percent, potatoes - 19 percent, eggs - nearly 10 percent, beef and poultry - nearly 9 percent and milk - nearly 3 percent.

During the Eighth and Ninth five-year plans the total amount of product output from the republic's private agriculture increased by 49 percent. Moreover, the production of such important food-stuffs as vegetables, melons and gourds, fruits, berries, grapes (2.3 to 2.5-fold) and meat (1.6-fold) was increased at rapid rates.

The rapid growth (1.7-fold) of products to be marketed from private plots is noteworthy; this includes the plots that are owned by kolkhoz workers - 1.5-fold, and by workers and employees - 3.9-fold. As a result the level of marketability of agricultural product that is produced in the republic's private plots amounted to 34 percent at the beginning of the Ninth Five-Year Plan; by the beginning of the Tenth Five-Year Plan it was raised to approximately 40 percent. These indicators are significantly lower than in kolkhoz and sovkhos production, where the level of marketability is reaching approximately 70 percent. However, they illustrate the fact that the product of private plots is used not only for consumption by those who produce it; a significant portion of it represents a surplus to be sold.

Of the total amount of product from private plots (considering the surplus at the start of the year and the purchases at markets within and outside the villages) approximately half is consumed by the workers, employees and kolkhoz workers engaged in this form of agriculture.

The oblasts of the UkSSR were broken down into groups in order to determine the extent that the production of basic food-stuffs in private plots affects the level of consumption by the population as well as the sources for forming the material-substance composition of the consumption fund. The average per capita amount of food-stuffs production in private plots was used as a basis for the grouping.

The first group included the oblasts of industrial specialization, where the level of food-stuff production in private plots is lower than the average for the republic. The second group included the oblasts with an agro-industrial and agrarian specialization with a level higher than the average. According to a calculation, the territorial indexes of production of basic food-stuffs in private plots estimated on a per capita of population basis of the oblasts of the first group amount to 50 to 70 percent of the average level for the republic and for the second group approximately three times greater (150 - 220 percent).

The results of the grouping indicate that the level of commodity (i.e., at the expense of state resources) consumption of food-stuffs by the population in oblasts of industrial specialization is double that in oblasts of agro-industrial and agrarian specialization with a higher degree of development of private plots. Thus, the territorial indexes of the population's consumption of meat, milk and eggs at the expense of state resources in the oblasts of the first group amount to 120 to 140 percent of the average level for the republic, and in the second group 50-70 percent altogether. Moreover, the difference between oblasts with minimum and maximum levels of consumption of these products is even more significant: the variation in the level of commodity consumption fluctuates from 216 percent for meat and 400 percent for eggs. As concerns the level of personal consumption of basic food-stuffs on the whole, i.e., considering the non-commodity consumption of product from private plots, analysis has shown that in both groups the value of this indicator is either the same and scarcely differs from the average for the republic (meat, milk and vegetables) or, just the opposite, it is higher in oblasts with a developed personal private agriculture (eggs and potatoes).

In this manner, while acting as an important element in forming the material-substance composition of the consumption fund, the product from private plots plays a very substantial role in smoothing out the differences in the consumption of food-stuffs by the population of various social groups and regions. Research has shown that the degree of territorial differences in the level of consumption of the more costly, livestock-derived food-stuffs is reduced at the expense of the non-commodity consumption of product from the private plots on the average by more than 3-fold. For example, the coefficient of variation of the consumption of meat and meat products per capita of population of the republic's oblasts is lowered from 32 percent for commodity consumption to 12.1 percent for consumption on the whole; the consumption of milk and milk products is lowered from 36.3 percent to 8.9 percent and eggs from 50 percent to 14.7 percent.

This provides, in our opinion, a reliable quantitative characterization of the importance of non-commodity consumption of produce from private plots. According to data of the USSR branch of TSNILS [Central Scientific Research Laboratory for the Study of Consumer Demand], in 1975 the amount of non-commodity consumption of meat and poultry by kolkhoz workers of the republic exceeded the amount of purchases of these products in the consumer cooperative by 17-fold, of milk products - 6-fold, eggs - 23-fold, potatoes - 30-fold, vegetables - 3.3-fold and fruits, melons and gourds - 9-fold. Therefore, the efforts, which are undertaken in economic literature, to analyze

the level of the personal consumption of the population of various regions solely on the basis of data on the volume and structure of retail goods turnover seem to be invalid. Inter-regional comparisons make it necessary to analyze the total amount of consumption, particularly if speaking about basic food-stuffs, a significant portion of which is produced in private plots.

The role of private plots as a source for obtaining non-industrial derived food-stuffs is especially important for the rural population. Thus, in the Ukraine the families of kolkhoz workers satisfy approximately 95 percent of their needs for potatoes from what they receive from private plots; 80 percent of their meat and meat products and milk and milk products, 75 percent of their vegetables and nearly all of their eggs come from private plots. On the whole for the republic more than 20 percent of the consumption fund of food-stuffs comes from consumption in kind.

One can judge the effect that the product from private plots has had upon the structure of commodity consumption of the population from the data of another grouping (see table).

Effect of Product Output from Private Plots of the UkSSR Upon the Structure of Retail Goods Turnover of Oblasts According to Data for 1976 *

Groups of oblasts for product output in private plots per capita of population, in rubles	Number of oblasts	Goods turnover of food-stuffs per capita of population, in rubles	Percentage of food-stuffs of the total goods turnover
Up to 135	12	409.5	51.7
135-195	5	313.0	50.0
More than 196	8	285.0	48.5
Average for UkSSR	25	397.0	50.8

The data from the table shows that as the output of product from the private plots of the oblasts increases there is a subsequent lowering of the percentage of food-stuffs in the overall goods turnover. Whereas in the first group of oblasts with the least volume of product output from private plots the percentage of food-stuffs in the structure of goods turnover exceeds the average level for the republic, in the third group, where the amount of product output is greater than the average for the republic, the percentage of food-stuffs is lower than the average for the UkSSR. This is caused by the fact that the increase in the amounts of receipts in kind when the material benefits remain constant leads to a reduction in the demand for

* Based on data of the Central Statistical Administration of the UkSSR and the statistical handbook "Narodnoye khozyaystvo UkSSR", Kiev, "Tekhnika", 1977, p 353.

the corresponding food-stuffs in the trade network and to the creation of an additional potential demand for other food-stuffs and non-perishable goods.

The product from private plots is the basic source of marketable goods for kolkhoz commerce, the development of which strengthens the economic ties between the city and the village and more fully satisfies the needs of those who live in the cities. In connection with this there is interest in the results of the analysis of the sale of food-stuffs at kolkhoz markets in cities and settlements. The information base for this analysis came from data of the UkSSR Central Statistical Administration on the sales of basic food-stuffs at kolkhoz markets of 53 cities of the republic, which differed in population, specialization, extent of development of private agriculture and other indications.

As the analysis showed one can add the size of a city's population to the number of basic indications upon which the volume and structure of the circulation of the market outside the village depend. As the population of the city increases the volume of sales of the majority of agricultural food-stuffs at the kolkhoz markets, estimated on a per capita of population basis, decreases.

Vegetables and fruits (more than 22 percent of the goods turnover) and also meat products (approximately 20 percent) predominate in the goods turnover of the kolkhoz markets throughout the UkSSR. The percentage of potatoes (approximately 15 percent) is somewhat lower. Milk and milk products account for 3 percent of the goods turnover; and eggs account for 1.5 percent. However, the structure of kolkhoz commerce in cities with a differing population is not the same. Whereas in small and average-sized cities the kolkhoz markets are significant sources for supplying the population with such important food-stuffs as meat, milk and eggs, in the large cities the markets play a more important role in providing the inhabitants with potatoes, vegetables, melons and gourds.

In the course of the analysis the lowering of the growth rates of goods turnover of kolkhoz commerce was noteworthy. Thus, during the Ninth Five-Year Plan the purchases of goods at kolkhoz markets outside the village increased in the republic by 10 percent altogether, while the purchases of goods in state and cooperative commerce increased by almost 33 percent. Whereas in 1965 the percentage of kolkhoz commerce in the total volume of food-stuffs sales (according to a comparable with state and cooperative commerce range of goods) amounted to 10 percent for the USSR, in 1976 it was less than 9 percent.

According to estimates of the Council for the Study of Production Forces of the UkSSR Academy of Sciences, the percentage of the kolkhoz market in the material-substance structure of the personal consumption fund was reduced in the UkSSR in 1976 as compared with 1960: for milk and milk products by a fourth and for eggs, vegetables, melons and gourds by approximately a half. Only the percentage of the purchases of potatoes in city kolkhoz markets increased (2.5-fold). This was brought about largely by the fact that for the indicated period there was a significant lowering of the growth rate

of product output in the private plots of the population. As a result the volume of non-commodity consumption of agricultural products from private plots with a 1.2-fold increase in the total consumption fund was decreased by approximately 6 percent. There was also a reduction in the percentage of personal private agriculture in the state purchases of agricultural product.

Of course, the rapid growth of the production of agricultural product in the kolkhozes and sovkhozes is the basic prerequisite for reducing the percentage of product from private plots in the consumption fund and in state purchases. At this point it is appropriate to recall L.I. Brezhnev's criticism in his book "Tselina" of the Kazakhstan workers of party, council and economic organs who did not give sufficient attention to the development of private plots. The book notes that "...while building global plans and taking on important matters, the people threw aside what seemed to them to be of secondary importance."

At the July and November (1978) plenums of the CC CPSU it was emphasized that it is necessary to use the capabilities for augmenting food-stuff resources from private plots; the private plot at the present stage of development of production forces retains its importance as one of the important factors for increasing the production of food-stuffs and for satisfying the needs of the population. The position that the state and the kolkhozes must assist citizens in conducting private agriculture is strengthened in the new USSR Constitution. The development of this form of agricultural production was furthered by the adoption into economic practice of measures aimed at improving the organization and raising the economic efficiency of personal private plots. Among these measures were included: the expansion of the means of small mechanization, the allocation of public means for performing work in private plots, the sale of fertilizers, insecticides, cattle and their provision with various, high-quality fodders, the expansion of the use of credit for increasing product output in private plots, the allocation of free plots of ground for organizing collective gardens and orchards and the more intensive use of the land at the disposal of the workers.

However, apart from carrying out these measures, as L.I. Brezhnev pointed out at the November (1978) CC CPSU Plenum, "there is also a need to create a specific public climate, in which the kolkhoz and sovkhoz workers would feel that in raising cattle and poultry at home they are doing something useful for the good of the state."

The further development of private plots will also be helped by raising the role of the procurement organizations and, in particular, the consumer cooperative, which is called upon to bear particular responsibility for the purchases of surplus agricultural product in the kolkhozes and from the population. Presently in the USSR only 7 percent of the product from private plots is procured by the consumer cooperative.

The consumer cooperative must guarantee the sale of product surplus that is produced in the private plots of the population and on a contract basis must actively influence private plot production and render assistance in acquiring

seed, fodder, garden and orchard implements, chicks, calves and so forth. What is more the increase of the sales of surplus agricultural product through the consumer cooperative at local market prices will make it possible to expand the volume of deliveries to kolkhoz markets, which is quite significant under conditions of high growth rates of the needs of the population.

The increase in the volume of deliveries to markets outside the village is promoted by measures for developing kolkhoz commerce and for improving its material-technical base. In the USSR, for example, in the first six months of 1978 alone more than 4 million rubles were spent for the construction, equipping with services and utilities and repair of kolkhoz markets; five trade pavilions with 400 working spaces, two milk and meat control stations and more than 1,000 linear meters of covered stalls were constructed; and 11,000 square meters of market space was covered with asphalt.

In the republic nearly 400 market councils and more than 3,500 public inspectors were created and are now operating. The inspectors disclose surpluses of agricultural product and help the kolkhoz workers to deliver these products to city markets. Particular attention is devoted to determining the best routes for transporting agricultural products from outlying areas and villages. The vehicles of the markets, kolkhozes and the transportation agency are used for these purposes.

Pre-holiday and seasonal fairs and bazaars are an effective means for increasing the delivery of agricultural products to the markets. It is estimated that during these periods the delivery of products increases from two to threefold; and prices are lowered by 20 to 30 percent. Positive experience in holding such fairs has been gained in Dnepropetrovsk, L'vov, Vinnytsa, Krym, Zaporozh'e and Kmel'nitskiy oblasts. At 16 city markets the sale of mixed fodders for the product that is sold has been organized to stimulate bringing in meat.

A significant reserve for the further increase of the production of agricultural product, particularly livestock products, is the development of private plot production enterprises, as well as the expansion of the practice of fattening pigs on food wastes within the system of the Ministry of Trade, the consumer cooperative and in worker supply departments. It is therefore necessary to activate the work in creating private plots locally.

The economic policy toward the private plots of the population and the private plots of enterprises and organizations is to give them full support in order to more rapidly solve the food-stuffs problem. This was precisely the goal that the November (1978) CC CPSU Plenum set for the party and economic organs.

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INCENTIVE SYSTEMS IN LIGHT INDUSTRY EVALUATED

Moscow SOTSIALISTICHESKIY TRUD in Russian No 7, Jul 79 pp 20-26

[Article by V. Denisov, administrative chief of labor organization, wages, and workers' cadres in the USSR Ministry of Light Industry: "More Effective Incentives -- Better Quality, Richer Assortment"]

[Text] High-quality goods in light industry are good, well-made fabrics, suits, dresses, and footwear following the latest fashions. The increased output of such products makes it possible to provide for a greater satisfaction of consumer demand. An increase in production, the expansion of assortment, and the raising of quality with respect to consumer goods remains one of the key national economic tasks, pointed out Comrade L. I. Prozhnev, general secretary of the CC CPSU and chairman of the Presidium of the USSR Supreme Soviet. In our sector more than 2,000 production associations and enterprises and several dozen fashion houses and scientific-research institutes are working on the accomplishment of this task. Work is being done on overall systems for the management of quality, the introduction of which has already been completed at 270 enterprises. All this is producing positive results. In 1978 goods amounting to a total of 5.7 billion rubles in value were produced with the state Mark of Quality. In addition to this, 3.2 billion rubles' worth of new types of products of improved quality and selection was produced, which exceeds the 1977 output by 1.5-fold. Recently the enterprises of light industry are annually renewing their assortment at a rate of 40-60 percent. However, far from everything possible has been done: it is still possible to find obsolete and out-of-fashion articles on the shelves.

The improvement of the quality of products is a complex problem, the material incentive, in particular, of workers directly employed in the renewal of the assortment of articles and the improvement of their quality occupies an important place in it. Until recently these workers at the enterprises, as a rule, were given bonuses for general reasons, that is, for the accomplishment of a plan by an enterprise on the basis of production volume and an increase in profitability and the productivity of labor. At the beginning of the Tenth Five-Year Plan a number of changes was introduced into the incentive system. These changes were especially essential after the introduction

of the new system of bonuses for directors, engineering-technical workers, and white-collar workers in the production associations, enterprises, and organizations of the various sectors of the economy. In the new sectorial statute on bonuses the USSR Ministry of Light Industry defined concrete directions of work so that the stimulation of the renewal of product assortment and the improvement of its quality would be more effective. Bonus systems for workers in fashion houses, scientific-research institutes, and assortment laboratories were improved.

Bonus System for Enterprise Workers

The renewal and improvement of product assortment in light industry depend above all directly on the enterprises. The whole collective participates in this, but the chief concern belongs to the artists, patternmakers, designers, and production engineers. An expansion of the role of workers in such categories is accompanied by an increase in their numbers. In clothing and footwear plants and textile factories producing ready-made fabrics it reaches 10-20 percent of the total number of engineering-technical workers and white-collar workers. The assortment laboratories, creative groups, experimental sections, and the shops in the enterprises are the first to assimilate the new designs, fashions, and patterns. All the work on the renewal and the improvement of assortment is directed by the Institute of Leading Artists and Patternmakers.

The workers of the above-mentioned creative subdivisions are given bonuses according to special statutes. The basic indexes of the bonus system ensure the accomplishment of tasks on the working-out and introduction into production of new forms of articles meeting a high artistic standard and in great demand by the people. In many enterprises well-based incentive systems for the authors of new articles have been developed. For example, at the Kaunas Silk Combine imeni P. Zibertas the artists and dessinators (the developers of new fabric structures) are given bonuses for fulfilling development plans regarding new designs and new fabric structures in the amount of 25 percent of the sum of the salary scale and also for the overfulfillment of a plan. In this case the fulfillment of a plan only pertains to designs and fabrics of the highest category of quality accepted by the Artistic Council of the Ministry of Light Industry of the republic for introduction into production. It seems, it would be of some use to apply bonus scales which effect individual enterprises where solutions have been found that are, on the whole, instructive for the whole sector.

At the Moscow Trekhgornaya Manufaktura Cotton Combine imeni F. E. Dzerzhinskiy the bonus scales for artists are differentiated in the following manner (Table 1).

Table 1

Proportion of higher category drawings in overall quantity of drawings developed, %	Bonus in relationship to salary scale, %
25	25
26--50	30
51--75	35
76--100	40
More than 100	50

Thus a bonus at the maximum rate (50 percent) is paid for the overfulfillment of a development plan with respect to new designs and if all of them are assigned to the highest category of quality. In the remaining instances the obligatory condition for a bonus is the fulfillment of a development plan regarding new designs.

At the Moscow Zarya Footwear Association the scale of the bonus system for designers of new articles is somewhat different (Table 2).

Table 2

Bonus Indexes	Bonus in relationship to salary scale, %
Fulfillment of plan-graph for working out and introducing new patterns, fashions, and types of footwear into production	30
Ahead-of-schedule fulfillment of plan-graph for working out and introducing new types of footwear	35
Working out and introducing new types of footwear adopted by the artistic council with the evaluation "excellent" in accordance with the plan-graph	40
Working out and introducing new types of footwear assigned the highest category of quality with the conferment of the state Mark of Quality in accordance with the plan-graph	50

Both bonus systems have their own peculiarities. In our opinion, to a great degree, the first stimulates an improvement in quality of new articles, the second -- the fulfillment of the plan regarding their development and introduction into production. All that is most valuable if this or that system was taken into consideration in the recommendations being prepared on this question. Their common trait lies in the fact that they create definite advantages in the material incentive of artists and patternmakers, that is, those who bear an overall responsibility for the output of articles meeting contemporary demands. The effectiveness of such bonus systems is above all determined by the level of the renewal of article assortment, which can be illustrated by the data in Table 3.

Table 3

Enterprises	Percentage of assortment renewal	
	1975	1978
Trekhgornaya manufactura Cotton Combine imeni P. E. Dzerzhinskiy	47.0	53.0
Moscow Oktyabr' Production Association for Worsted Material	18.4	22.8
Moscow Zarya Production Association for Footwear	27.2	54.4
Kaunas Silk Combine imeni P. Zibertas	8.4	13.0
Tallinn Production Association for Sewn Garments imeni V. Klement	70.1	70.2
Vil'nyus Liniya Production Association for Sewn Garments	55.3	68.1

No provisions have been made for direct incentives for the renewal of assortment in the basic bonus system for the remaining enterprise workers. However, the scale of bonuses allocated to them according to this system depends on the level of renewal of output since this level affects both the fulfillment of the sales plan and profitability. This is why the scale of bonuses exceeds the average scale of bonuses for workers in this category throughout the sector as a whole by 1.5-2-fold for engineering-technical workers in enterprises where the assortment of articles is renewed in large volumes.

It must be said that not all the enterprises of light industry are yet applying the special indexes in incentives for developers of new articles and are continuing to give them bonuses on the basis of overall indexes for the operations of an enterprise, which has a negative effect on the quality and assortment of products. The persistent organizational work of republic ministries of light industry and all-Union and republic industrial associations is needed in order for enterprises to restructure their work in this area. The recommendations of USSR Goskomtrud [State Committee on Labor] and the USSR Ministry of Light Industry are few.

Bonus System for Workers in Fashion Houses

The sectorial fashion houses, whose task is to develop and introduce into production future models of clothing, footwear, and knitted wear corresponding with contemporary fashion and also to promote new directions in fashion, play an important role in the renewal and the improvement of product assortment in light industry. In their experimental production the houses of fashion are the first to embody the ideas of artists and patternmakers in ready-made articles.

The specific tasks of the fashion houses have stipulated the peculiarity of the bonus system for their workers. The bonus system in the all-Union fashion houses for clothing, footwear, ready-made garments, and knitted wear is of the most interest. The bonus system is directed at increasing the number of new fashions and their introduction into production.

The management workers of fashion houses and of the various management services are given incentives for the fulfillment and overfulfillment of the development plan for new fashions, their introduction into production, and the fulfillment and overfulfillment of the plan with respect to sales volume and the reduction of prime costs. The scale of bonuses also depends on the quality of the patterns and samples. As a rule, a large portion of the bonus is allocated for the fulfillment and overfulfillment of the plan for developing new patterns.

The authors and immediate workers on new patterns for articles -- artists and patternmakers -- make up 20-25 percent of the total number of workers in fashion houses. The payment of bonuses to artists and patternmakers does not depend on the fulfillment of a plan according to the overall indexes of economic activity. For example, in the All-Union House of Fashions for Clothing they are given bonuses for the fulfillment and overfulfillment of individual planned tasks in the making of patterns for ready-made garments (the bonus scale is 20 percent of the salary scale for the fulfillment of an assignment and 0.75 percent for each percentage of overfulfillment) and for the overfulfillment of the plan with respect to the selection of patterns for introduction into production (1.5 percent of the salary scale for each percentage point above the plan).

An obligatory condition for the awarding of a bonus is the fulfillment of the plan with respect to patternmaking by the whole brigade of artists and patternmaker, this stimulates collective work and the development of mutual aid within the brigade. The bonus is increased for the development of patterns assigned the highest category of quality by the artistic council.

In the All-Union House of Fashion for Footwear the awarding of bonuses to creative workers is differentiated in a dependence on the role of each in the development and realization of a new task (Table 4).

Table 4

Groups of workers	Percentage of bonus to salary scale for			
	Fulfillment of pattern development plan	Each percentage of overfulfillment of pattern development plan	Each higher category pattern	Each pattern sold by an enterprise
Artists, patternmakers according to prognosis and justification of new patterns	30	1.5	0.2	--
Artists, patternmakers who develop new patterns	30	1.0	--	3

Such a differentiation of bonuses is completely justified inasmuch as it corresponds with the main direction in the work of the creative groups. This is also reflected in the operational indexes of the fashion houses. Thus the All-Union House of Fashions for Clothing in 1978 introduced 2,373 patterns into production in a plan of 2,100; the All-Union House of Fashions for Footwear -- 1,343 patterns after having overfulfilled the sales volume plan by 185,000 rubles.

At the present time the USSR Ministry of Light Industry together with the fashion houses is improving bonus systems in order to strengthen the incentives for developing high-quality patterns and also for the selection and sale of patterns by industrial enterprises. But this is not the only way for improving the operations of fashion houses. They could play a more active role in the improvement of the quality of patterns and in increasing their sales by enterprises if a transition were to be made to a new system of planning and economic stimulation and if they were to operate under the conditions of full profit and loss accounting. This is not just the concern of the USSR Ministry of Light Industry but also of USSR Gosplan, USSR Goskomtrud, and USSR Minfin [Ministry of Finance].

Awarding of Bonuses for New Products of Improved Quality (with the index "H")

A system of establishing temporary wholesale and retail prices for new consumer goods of improved quality has been in effect since 1962 in light industry. This procedure contributes to strengthening the financial concern of enterprises in the fact that the assortment of products being manufactured would constantly be renewed and expanded and their quality be improved. Fabrics, carpets, furs and fur products, footwear, ready-made garments, knitted wear, haberdashery goods, and other articles, which meet the demands of technical documentation, exceed in quality that which has been manufactured before (with respect to quality, finishing work, fashion, and so on), and is increased public demand, are considered as new products of improved quality for which temporary prices are established. The right to place articles in this category is granted to the intradepartmental commission in the All-Union Institute of Assortment and Articles in Light Industry and Clothing Standards. As a rule, goods which are assigned the index "H" are certified as being of the highest category of quality.

Temporary wholesale and retail prices for new products of improved quality include temporary additions to constant prices for compensation for additional expenses connected with the mastering and the expansion of the production of new products and with the awarding of bonuses for workers in enterprises, fashion houses, and scientific-research and design organizations. Up to 15 percent of the sum of the addition transferred to the material incentive fund is expended for the purpose of awarding bonuses to these workers. This sum is not small, in many enterprises it reaches 500,000-700,000 rubles annually, which amounts to 20-30 percent of the material incentive fund.

The peculiarities of the system of awarding bonuses to workers for new products of improved quality manifest themselves clearly in the new system of awarding bonuses introduced in 1978. Now only those workers who participate directly in the development, production organization, and manufacture of new products of improved quality are awarded bonuses in the production associations, enterprises, fashion houses, and scientific-research and drawing-design organizations. The bonus is paid independently of the fulfillment of the plan in other indexes and of the obtaining of bonuses from other systems (this does not apply to management workers). The sum total of bonuses for new articles of improved quality paid out to a single individual should not exceed in 1 year: six salary scales for developers, three salary scales for other workers, and the maximum sum total for directors of enterprises according to special bonus systems (2.5 salary scales).

In the new statute provisions have been made for an expanded list of articles of the light industry which can be included in the new products of improved quality. This has made it possible to strengthen material incentives for expanding assortment and improving the quality of consumer goods. The responsibility of management workers in enterprises for the production of new products of improved quality has been increased. They now, as a rule, are awarded bonuses for increasing the proportion of these products in the total volume of production.

The long-term practice of awarding bonuses to workers for the output of new goods of improved quality demonstrates its effectiveness, in it the interests of the state are combined with the personal interests of workers. In the last 2 years alone (1977-1978) approximately 100 million rubles from the additions to temporary wholesale prices throughout the USSR Ministry of Light Industry as a whole were transferred to the material incentive funds of enterprises. Data regarding the payment of bonuses for the output of new goods of improved quality according to individual enterprises for the year 1978 are presented in Table 5. They attest to the fact that the greatest portion of the sum of the award, as a rule, is earmarked for workers.

The distribution of the sum of the bonuses between categories of workers must not be called optimal in all three enterprises. The better correlation of sums paid out, is, if you please, in the Zarya Footwear Association, then in the Tiraspol' Garment Factory ineni 40th Anniversary of the VLKSM [All-Union Lenin Young Communist League] where, to a great degree, incentives are given to the developers of new patterns and organizers directly involved in their production.

Table 5

Enterprises	Total of bonuses paid out	to authors		ITR and white- collar workers		to workers	
		thous. in % of	of results	thous. in % of	of results	thous. in % of	of results
Trekhgornaya manu- faktura Cotton Combine imeni F. E. Dzerzhinskiy	103.1	74.	7.2	28.6	27.7	67.1	65.1
Moscow Zarya Pro- duction Associa- tion for Footwear	311.1	31.1	10	124.4	40	155.6	50
Tiraspol' Ready- made Garment Fac- tory imeni 40th Anniversary of VLKSP	113.0	16.0	14.1	32	28.2	65	57.7

The payment of bonuses is legalized by a special order of the director of an enterprise or organization, he brings it to the attention of the whole collective. The bonus sums distributed according to the shops of an enterprise are strictly differentiated in a dependence on the quantity of new products manufactured by the shop and are paid out to individual workers in a dependence on the degree of their participation in the mastering and output of these products.

Incentives for the development, mastering, and output of new products of improved quality have promoted an essential increase in their production. Moreover, the output of goods with the state Mark of Quality has also increased. The dynamics of the proportions of new products of improved quality in the overall volume of production according to individual enterprises is shown in Table 6.

The data cited in Table 6 confirm the effectiveness of such a bonus system. However, an analysis of the incentive systems applied in enterprises has shown that not all their possibilities are being utilized. From Table 5 it is evident that minimum sums, one-half to two-thirds less than the recommended amounts, are deducted for the purpose of awarding bonuses to developers of new products. One cannot approve of such a practice.

Table 6

Enterprises	Proportion of new products of improved quality, %		Proportion of articles with state Mark of Quality, %	
	1978	1978	1975	1978
Trekhgornaya manufaktura				
Cotton Combine imeni P. E. Dzerzhinskiy	5.2	12.1	5.0	11.7
Kaunas Silk Combine imeni P. Tibilertas	18.7	29.1	12.3	17.2
Kosino Production Association for Knitted Wear	5.8	10.4	6.4	11.6
Main Enterprise of Moscow Zarya Production Association for Footwear	17.8	22.1	8.7	24.0
Tiraspol' Ready-Made Garment Factory imeni 40th Anniversary of VLKSM	2.4	14.3	3.5	25.4
Moscow Salyut Production Association for Ready-Made Garments	14.7	20.3	12.0	35.0
Zarya Sotsializma Flax Combine	3.4	15.0	1.2	10.7

The awarding of preferential incentives to developers of new products, which are in much demand, is a well thoughtout measure. It corresponds with the interests of the consumer, enterprises, and the state. The maximum bonus scale for artists and pattern makers is six salary scales annually. There are no regrets in paying out such a bonus if it is commensurate with the achieved effect and is well-based economically. Unfortunately, deserved incentives for artists and pattern makers in the higher scales are rather rare. This is the result of the force of equalizing tendencies, the overcoming of which is one of the primary tasks of the USSR Ministry of Light Industry. The second task is to increase the participation of sectorial fashion houses, scientific-research organizations, and enterprises in working out new patterns and samples for articles.

The Ministry is striving to achieve a situation in which the established incentive system with respect to the mastering and producing of new products of improved quality would be strictly observed, allocated bonus sums would be utilized according to a direct purpose, only those workers who are directly involved in the production of new products would be given bonuses, and so on.

Industry, and, of course, the consumers themselves are interested in having all new products assigned the state Mark of Quality. But the stimula-

tion for the output of products with this mark is still one-sided: on the whole, engineering and technical personnel are the ones provided with incentives. Therefore, at the present time a search is being conducted for effective incentive systems for workers participating in the manufacture of goods with the state Mark of Quality.

At the same time, the introduction of a new bonus system for new products of improved quality place before the ministry a number of questions, for which it does not have any answers. In many enterprises considerable bonus sums (sometimes half) are not used. Thus at the Moscow Trekhgornaya manufaktura Cotton Combine imeni F. E. Dzerzhinskiy 86,000 rubles remained unused for the year 1978, at the Moscow Oktyabr' Association for the Production of Worsted Material -- 143,000 rubles. The basic reason for this is the fear of disturbing the correlation between the growth rate of the productivity of labor and the average wage and leaving the whole collective on the whole without a bonus.

Thus the regulation that the payment of bonuses for the development, mastering, and output of new products of improved quality does not depend on the fulfillment of the basic operation indexes of an enterprise is conditional. Evidently, it is necessary to still apply considerable efforts so that important economic measures intended for stimulating the output of goods necessary to the consumer will be put into full force.

In our opinion, there is a need for a clarification and a list of workers who can be given bonuses for the development, organization of the production, and manufacture of new products of improved quality. For example, this list does not include engineering and standard setting personnel.

Answers have not yet been found for all the questions arising in the practice of awarding bonuses. But it is already now clear that improving material incentives for the purpose of improving the quality and assortment of consumer goods and expanding their assortment is a matter of great state importance. It is exactly from such positions that the USSR Ministry of Light Industry is approaching this question.

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TRANSPORTATION

DESIGN OF EIGHT-AXLE RAIL TANK CAR TO BE PERFECTED

Moscow ZHELEZNODOROZHNIY TRANSPORT in Russian No 6, 1977 pp 57-58

[Article by Doctor of Technical Sciences V. N. Koturanov, professor, and Candidate of Technical Sciences I. L. Sharinov: "Perfection of the Design of the Eight-Axle Tank Car"]

[Text] Testing of a new eight-axle tank car was carried out in 1975 by the All-Union Scientific Research Institute of Railroad Transportation. These trials summed up the result of 10 years of work on the creation of a design for a large-load tank car that does not have a frame and with a tank that is able to carry all sorts of cargoes. Many complex tasks connected with heightening the durability of the tank without an appreciable increase in its weight were accomplished during this time, as well as tasks connected with drafting a design whose manufacturing technology would satisfy mass production needs.

The first experimental model of the eight-axle tank car had a structural design for the tank and support installations similar to that of the four-axle frameless tank car. The tank was smooth (nonreinforced) and had niches in the end sections for putting the arms of the center girders through. The thicknesses of the side and upper sheets, as with four-axle tank cars, were 10 and 9 mm respectively. The lower sheet and sole plate had a thickness of 14 mm, while the sheet in the niche was 16 mm (in the tank on the four-axle tank car they were 12 and 14 mm respectively). The presence of the niche has enabled the lowering of the center of gravity of the tank car, which has improved its dynamics and lessened eccentricity upon the shifting of linear loads. However, in conjunction with this, the technology involved in the manufacture of the tank was made substantially more complicated and the fitting of support installations to it was likewise made more complex, which has led to additional initial stresses. In addition, the conditions for operation of the drum in the region of the niche have deteriorated owing to the influence of internal pressure as a consequence of the distortion of the cross-section of the cylindrical shell.

The testing of the first model of the tank car showed that a nonreinforced tank with the accepted thicknesses of sheets, to begin with, does not possess

sufficient rigidity. This was revealed when testing was done for ambient pressure, which appeared during the 1960's as one of the criteria for the durability of the shell of the tanks on the basis of the results of testing of full-scale tanks of four-axle tank cars with a capacity of 58 and 60 cubic meters. A basic requirement placed upon a shell with this type of load is the preservation of its form; hence, the testing of the shells of the tanks for ambient pressure became, in essence, a verification of the rigidity of the tank. A quantity of ambient pressure equal to 5 Newtons/cm² was selected as the criterion. The tank of the experimental eight-axle tank car withstood an ambient pressure of 3 Newtons/cm², but the testing was terminated at this pressure owing to great displacements of the shell. The subsequent theoretical and experimental research on the stability of the shells of tanks has shown that the critical load for a nonreinforced tank of the eight-axle tank car is substantially lower than 5 Newtons/cm², while, at the same time, the tanks of all existing four-axle tank cars have a critical load equal to or even somewhat greater than this quantity.

The insufficient rigidity of the shell also takes its toll in conjunction with the effect of other types of loads, particularly dynamic effects. This is manifested, for instance, in the flattening of the middle cross-sections of the shell (they take on a form close to that of an ellipse) owing to the eccentric shift to the tank of longitudinal forces. Besides, during testing for collisions, rather great amplitudes of oscillation were measured, which testified to the low frequency of its own oscillations. The tank of the experimental eight-axle tank car also turned out to be insufficiently durable, particularly in the zone of shift of support loads (along the ends of the pin beams). Subsequent research has confirmed the inevitability of high stresses with the design that has been adopted for the support.

Thus, the first trials have shown that when a thin-walled tank has been created for a tank car with large carrying capacity, it is necessary to resolve the questions of guaranteeing its over-all rigidity and durability of the support sections.

While conducting dynamic train trials of the first experimental model of the eight-axle tank car, a series of trips was made during which a spacing ring was installed inside the tank in its middle section. It turned out that such a reinforcement was conducive to a considerable reduction in dynamic stresses. The experiments that were conducted with the spacing ring have shown that reinforcing it with frames is one of the ways to heighten the rigidity of the shell. A plan was drafted and models of tank cars were built with tanks reinforced in the middle section with frames. At first a composite profile of the frame was adopted (from angle and strip) and then an omega-shaped profile was adopted following the model of the props of the gondola cars with those same thicknesses of sheets of the shell. As a result, the container grew in weight in comparison with a smooth tank from 49.9 to 50.5 tons.

The testing of the experimental model showed that the rigidity of the tank between the bottom and the frame was heightened; however, the stresses in the support zone decreased negligibly (by 10 to 15 percent) and have continued to

remain rather high. After one and one-half to three and one-half years now of operation of the experimental batch of these tank cars, transverse through cracks have begun to appear in the frames and separations of the frames from the tank in its lower or upper section have occurred. As a rule, the transverse cracks in the frames would begin on the welded joint seam of the external flange of the profile. The cracks traveled along the walls of the profile either along the oblique seam or along the entire metal. In addition, cracks have appeared in the joint weld connecting the sole plate with the armor plate of the tank. The origin of these cracks was linked not only with the high stresses from operating loads, but also with residual stresses originating in the complex fitting and welding of the supports to the tank. Thus, the measures that have been taken have not resolved all questions connected with increasing the durability of the tank.

The testing of experimental models that has been conducted, operations observations of experimental batches of tank cars with smooth and reinforced tanks in the central section and also multitudinous theoretical research have shown that it is advisable to reinforce the shells of the tanks of large-load tank cars with frames that are situated not only in the span, but also over the supports. In connection with this, not only is the necessary rigidity of the shell of the tank ensured in terms of the stability condition against ambient pressure, but also questions of the shifting of local support loads through support (main) frames, which permit one to rule out great deformations of the contour of the cross-section, are resolved.

On the basis of the research that has been conducted, the Zhdanov Heavy Machine Building Plant has drafted a plan and built two experimental models of tank cars with tanks reinforced by six (two on each support and two in the middle section at the hatches and manholes) frames with an omega-shaped profile. At the same time, the thickness of the lower sheet was decreased to 12 mm and that of the upper and side sheets to 8 mm. This has permitted one to reduce the weight of the container to 48.5 tons. Statistical durability testing has shown that the over-all level of stresses in comparison with a smooth (nonreinforced) tank was lowered, particularly in the zone of the supports, while the rigidity of the shell has grown substantially. However, at certain points in the zone of the niche and middle frames, the tensions from operating loads have exceeded the permissible levels.

High tensions in the frames have been explained by their unfortunate location at the hatches and manholes, in conjunction with which the lower portion of the frame, upon finding itself in the zone of the pouring slope, has deviated substantially from a circular shape. During the testing of resistance to vibration, cracks appeared on the tank in the support zone and in the joint welds where the frames are welded to the lower sheet of the drum. The repair of these cracks failed to yield positive results—after the renewal of testing, those same cracks appeared again. In addition, the joint welds of the diaphragms of the pivot beam failed in the zone where they intersect the center girder.

One must note that one of the reasons for the aforementioned failures is the low quality of manufacture of the tank. However, the basic reason for the undesirable occurrences in the support zone must be viewed as the unfortunate design of the support junction, which was, in essence, determined by the presence of the niche in the tank. Hence, it was necessary to abandon the niche for the purpose of further mastery of the design for this junction of the tank car. In conjunction with this, the technology for the installation of the support units would be simplified, the quality of the manufacture of the cylindrical shell would be improved, especially in the zone where it is harnessed to the supports, and factors that lead to fatigue failure of the supports during operation would be eliminated. In particular, tensions that arise upon the installation of supports on the tank would be lessened.

The first plan for a tank car with a design for the support junction (without a niche), which is new in principle, was drafted by the Zhdanov Heavy Machine Building Plant in 1972. A tank car with this support would have paired frames in the support zones, while the middle section of its tank, despite the recommendations of the All-Union Scientific Research Institute of Railroad Transportation and the Moscow Institute of Railroad Transportation Engineers, would not be reinforced. This railroad car went through an entire complex of statistical testing, including tests for an ambient pressure of 5 Newtons/cm² and tests for collisions. However, during the testing for resistance to vibration, an inadequate rigidity in the cylindrical portion of the tank in the section between the supports was established, which would lead to a separation of the shell from the support frames in the upper section. This circumstance can be explained in the following manner.

As was already noted above, one of the criteria for the rigidity of the shell of the tank is its reserve of stability against ambient pressure. This criterion is not only necessary, but also adequate for four-axle tank cars with the length of the tank at 9.4 meters. As far as eight-axle tank cars are concerned, then this criterion has turned out to be inadequate for them. For a shell reinforced only on the supports with a length of 1,380 cm (the distance between the support frames), its own frequency turns out to be equal to 11 Hertz. When compared with the frequency of the four-axle frame tank car, this quantity is considerably less than the four-axle frame tank car. The placing of additional frames in the middle section is the most acceptable means for increasing it.

A plan that differs from the previous one by the reinforcing of the middle section with paired frames was drafted on the basis of this tank car. Experimental models of this tank car have successfully passed all types of control and performance trials. The tank car has been awarded the State Emblem of Quality.

The research conducted by the All-Union Scientific Research Institute of Railroad Transportation, the Moscow Institute of Railroad Transportation Engineers, the All-Union Scientific Research Institute of Railroad Car Building and the Zhdanov Heavy Machine Building Plant has enabled the creation of a technologically convenient and sufficiently durable variant in the design for the large-load tank car. During the creation of the appropriate rigging and manufacturing technology for tanks with a greater number of frames, it will be possible to accomplish the task of future decreasing the metal-intensiveness of the design.

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TRANSPORTATION

EFFICIENCY OF EIGHT-AXLE GONDOLA CARS DISCUSSED

Moscow ZHELEZNODOROZHNIY TRANSPORT in Russian No 7, 1977 pp 53-54

[Article by Doctor of Technical Sciences L. A. Shadur and Doctor of Technical Sciences S. V. Vershinskiy: "The Extent of Economy from Eight-Axle Gondola Cars"]

[Text] During the course of recent years extensive technical and economic research on determining the most efficient models and designs for railroad freight cars for present-day and future operating conditions has been conducted in the All-Union Scientific Research Institute of Railroad Transportation of the Central Scientific Research Institute of the Ministry of Railways, the Moscow Institute of Railroad Transportation Engineers, the Omsk Institute of Railroad Transportation Engineers, the All-Union Scientific Research Institute of Railroad Car Building and the Institute of Over-All Transport Problems.

In settling the question of which models and designs of railroad freight cars are advisable for domestic railroads, the carrying capacity and the net linear load of the freight car, on which the productivity of the railroad car, the weight of the train and, hence, also the carrying capacity of the railroads depend, were taken into account first of all, along with a whole series of other parameters. One must note that a tendency toward growth in the carrying capacity of railroad cars is at the present time typical of all countries.

The need for any and every sort of increase in carrying capacity is of particularly great significance under the conditions prevailing in our country.

Theoretical research and practice show that from the point of view of traffic and carrying capacity of railroads, the best results are provided by eight-axle gondola cars, whose carrying capacity is double that of four-axle gondola cars, while the linear load has been increased by 36 percent. This enables the marshaling of trains of greater weight and accordingly a reduction in the amount of traffic. The advisability of widespread use of eight-axle gondola cars, which permit one to heighten the linear load by more than 30 percent, is also conditioned by complications involved in the further lengthening of station tracks on the most important main routes of the network.

The efficiency of eight-axle railroad cars is also corroborated by economic calculations. Thus, the production cost of freight shipments in eight-axle gondola cars is 8 to 13 percent less than in four-axle gondola cars. According to calculations by the Moscow Institute of Railroad Transportation Engineers, the use of eight-axle gondola cars instead of four-axle cars permits one to lower operating expenditures by 10.1 percent or by 162 million rubles, capital investments by 10.7 percent or 1,884 million rubles and costs incurred by the national economy by 10.4 percent or 351 million rubles a year.

All this represents conclusive evidence of the high degree of saving occasioned by eight-axle gondola cars and the correctness of the decisions made concerning the need for their mass construction. As we know, "The Basic Directions for the Development of the National Economy of the USSR for 1976-1980," as approved by the 25th Party Congress, envisage the setting up of production of eight-axle gondola cars and tank cars with a carrying capacity of up to 125 tons.

Meanwhile, some specialists suggest orienting railroads toward other models of railroad cars. For instance, the article by K. P. Il'in, Yu. K. Shestakov and V. S. Kalinnikov, "Open Hoppers for Hauling Bulk Freight," substantiates the viewpoint that it is more advisable to transport bulk freight not in four-axle and eight-axle gondola cars, but rather in open hoppers of four-axle design.* It follows from the data featured in this article that in terms of a definitive indicator of efficiency, namely, the magnitude of costs incurred by the national economy, eight-axle gondola cars give way to four-axle gondola cars, while these and others give way to open hoppers. Besides, according to calculations by the authors, the production cost of the shipment of freight in eight-axle railroad cars is only 3 to 4 percent lower than in four-axle cars, and not 8 to 13 percent lower, as indicated above. The authors apparently came to such conclusions because they accepted the deadweight and the loading ratio of the tare and not carrying capacity and linear load, as the main parameters in selecting the optimum variant for the freight car.

It follows from the article that the efficiency of the open hopper is determined first of all by the considerably smaller expenditures required for its unloading in comparison with gondola cars. However, expenditures on the unloading of eight-axle railroad cars were overstated in the article, which was evidently brought about by costs for the modernization or replacement of car dumpers being included. Meanwhile, according to calculations by the Dnepropetrovsk Planning and Design and Technological Institute, which is a key organization in the planning of car dumpers, designs for the latter that are intended for the unloading of all models of gondola cars, including eight-axle cars as well, owing to their greater productivity, turn out to be more efficient than previous designs that were calculated only for the unloading of four-axle and six-axle gondola cars. The saving on current and one-time costs is 108,000 rubles a year for each car dumper.

Research carried out earlier has shown that the efficiency of this or that method of unloading depends essentially on the volume of unloading. When there

* See ZHELEZNODOROZHNIY TRANSPORT, 1977, No 1.

is a considerable volume of unloading, unloading with car dumpers, despite their great cost, is more economical than without the use of them. Thus, according to calculations by the Dnepropetrovsk Planning and Design and Technological Institute, the unloading of gondola cars on one car dumper when compared with unloading them on a trestle enables one to save 145,000 rubles annually when the volume of freight being unloaded is that which is typical of a metallurgical plant or an electric power station of average capacity. But it is to precisely such enterprises that it is advisable as well to direct special railroad cars in unit trains for hauling coal, ore and other bulk cargoes, including open hoppers as well, on round-trip routes, when the operation of a certain number of such railroad cars can occur without a substantial growth in empty runs.

The general-purpose eight-axle gondola car has a net linear load that is 34 percent greater than the four-axle car, while the eight-axle gondola car with a hollow body is 38 percent greater than that of the four-axle gondola car and 23 percent more than with the open hopper being proposed. But it is irrational not to use such an important reserve for heightening the carrying capacity. In addition, the open hopper possesses less of a general-purpose character in comparison with the gondola car. As a result of this, the empty runs of the open hopper will be greater than those of the gondola car, and not the same, as was assumed to be the case in the calculations of the authors. Hence, an unavoidable increase will occur in the fleet of railroad cars required and in costs for the development of the traffic capacities of the railroads.

In determining the parameters and structural models for freight cars for long-term operating conditions, great attention is being paid to ensuring the steadiness of railroad cars in trains of great weight and to ruling out the possibility of their being squeezed out of the consist by longitudinal forces during braking, as well as their being derailed. Research shows that under unfavorable conditions, empty and lightly-loaded four-axle railroad cars can be squeezed out of the train upon a longitudinal compressive force in excess of 50 tons-force. Forces of such magnitude sometimes emerge in modern-day trains and will often be observed in trains of great weight that are being planned for the future. The reality of such forces is also testified to by the fact that forces equivalent to 100 to 250 tons-force are taken into account in estimating durability for railroad cars.

Of four-axle railroad cars, the designs with a small base and a high positioning of the center of gravity have the least stability in the face of squeezing and derailling. The open hoppers with a length of 12 meters that are suggested in the article under review also fall into this category. Calculations show that the stability factor of the proposed hopper against squeezing by longitudinal forces, as estimated according to the Norms for Calculation of Durability of Railroad Cars, is 13 to 19 percent lower than for the four-axle gondola car, whose stability is also inadequate for future conditions. The coefficient of transverse stability of the hopper under consideration is 15 to 19 percent lower than for the four-axle gondola car.

The defects of the open hopper which have been enumerated are subject to careful technical and economic evaluation. In our opinion, the authors of the article under review accomplished this task with insufficient depth. One must not fail to take into account the small extent of saving from and other defects of open hoppers for the shipment of bulk friable cargoes and, in particular, the need to increase the fleet of railroad cars that are required in light of a certain short supply within the fleet. Hence, the State Committee for Science and Technology, while considering the reports of the Ministry of Railways and the Ministry of Heavy and Transport Machine Building on the structure of the fleet of freight cars for the future up to 1990, did not stipulate the creation of railroad cars of this model. The situation with covered hoppers for the transport of grain, cement and mineral fertilizers, as envisaged by this structure, was different. The advisability of using them has been proven, while the defects peculiar to them are not very substantial owing to the comparatively small number of such specialized railroad cars in the total railroad car fleet and the limited size of the volumes of shipments made in them.

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INTRODUCTION OF EIGHT-AXLE GONDOLA CARS

Moscow ZHELEZNODOROZHNIY TRANSPORT in Russian No 5, 79 signed to press
25 Apr 79 pp 56-58

[Article by Doctor of Technical Sciences, Professor K. A. Berngard and
Candidate of Technical Sciences, V. K. Buyanova: "The Operational and Technical Features of the Introduction of 8-Axle Gondola Cars"]

[Text] The wide introduction of the new 8-axle gondola cars of the increased T_{pr} size permits a significant increase in the carrying capacity of railroads. Built according to these dimensions, the rolling stock does not require the rebuilding of station tracks (the widening of intertrack spacings) and makes it possible to increase the weight of freight trains.

To provide for the economic effectiveness of the new cars and at the same time determine the optimum values of their basic parameters and develop the design performance technical requirements, it is also necessary to solve a total set of problems on the selection of operational principles of the cars at the various stages of introduction, which will provide for the quickest increase in the carrying and traffic capacity of railroad lines.

The weight standards of freight trains are determined basically by two parameters--the effective length of the station tracks (850 and 1050 meters, including on all freight-intensive lines) and the supporting power of the track. The use of the highest length standards for station tracks is possible only on lines newly under construction.

At the same time, the modern track superstructure designs and the power of the rails at all points permit a sufficiently high loading for one running meter of track. Measures carried out by the Ministry of Railways on strengthening track and bridge structures have been directed toward an additional rise in linear load by yet another 2.2 tons of force per meter.

The basic method for increasing linear load is by increasing the overall dimensions of freight cars, primarily the gondola and tank cars, which carry more than 65 percent of all freight on the system.

Gondola cars--the basic type of freight cars--carry a wide variety of freight with various unit volumes. To fully utilize the carrying capacity of the cars while shipping a majority of the grades of pit coal, it is necessary that the specific volume of the car body be no less than 1.12-1.14 cubic meters per ton. With full loading (according to carrying capacity) the T_{pr} sized 8-axle gondola car with standard unloading hatches will have a gross linear load of 9.5 tons of force per meter which corresponds to freight train weights of 7,600 and 9,500 tons with the standard station track lengths of 850 and 1,050 meters respectively. For the multipurpose 8-axle gondola car with 1-T working dimensions, the gross linear load amounts to only 8.2 tons of force per meter.

Thus, the use of the new gondola car with the increased T_{pr} size for transporting coal and ore permits an increase in the weight of block trains (compared with the 8-axle gondola cars of the 1-T effective size) by 1,000-1,300 tons.

The utilization of 8-axle rolling stock of the increased size is most effective on lines where heavy cargo predominates in the total volume of the shipments. Calculations have shown that the 8-axle gondola cars of the T_{pr} size will allow, for example, compared with modern 4-axle ones, for future shipments from the Ekibastuz region to Tselinograd to be decreased by 35 percent and at present on the single-line Tayshet-Sayanskaya sector by 27 percent.

The basic criterion determining the effect of the multipurpose freight cars on the carrying capacity and economic effectiveness of transportation is the expected average net linear load corresponding to the total structure of the freight transported in these cars. When the railroads are fully equipped with the 8-axle multipurpose gondola cars of the T_{pr} size, this indicator will amount to 5.76 tons of force per meter. Taking into account the reinforcement of the railroad car fleet with 8-axle tank cars of the increased size, the average net weight of all freight cars will grow by 20 percent (without considering the effect on this indicator of the further lengthening of station tracks). In addition to this, increasing the average weight of freight trains is one of the basic ways to increase labor productivity.

For the wide introduction of the new size T_{pr} cars, it is necessary to carry out a number of technical measures to eliminate the off-gauge areas at some of the sectors and stations, and also at the sidings of industrial enterprises and loading-unloading and weighing installations, on which the new cars cannot run. However, the presence of these limitations does not mean that the new cars cannot go into operation until these problems are fully eliminated on the entire system.

Under the system of universal usage of the basic part of the freight car fleet on the system which has been established, there are routes which have steady flows of loaded and empty gondola cars. On these routes even the specialized use of the new larger rolling stock will increase the carrying

and will not cause difficulties in operational work. All that is required here are comparatively small expenditures to eliminate the off-gauge areas and to modernize or replace loading and unloading facilities. Based on studies conducted at VNIIZhT/All-Union Scientific Research Institute of Railroad Transportation/ by the Ministry of Railroads, 40 routes with steady patterns of bulk freight (basically pit coal) have been selected, on which the 8-axle T_{pr}-sized gondola cars will be primarily operated. It has been established that for these routes the most advisable thing to do is to organize circular routes of the large-capacity cars for transporting pit coal to GRES's and TETs's.

The stability of these freight patterns and the correspondence of the travel routes returning from the GRES's and TETs's of empty gondola cars to the regulating traffic schemes of the multipurpose cars will keep the value of the coefficient of an empty run at the present level and will lower the production cost of transportation.

The largest of the enterprises examined in the regions through which the most freight-intensive, double-track routes pass feel, to a great degree, the necessity to develop the traffic and carrying capacity of the line.

In conjunction with the long-range forecast on circular runs for these routes, the intention is to transport about 250 million tons of power coal. The use of circular routes does not worsen the operational conditions of the fleet of remaining multipurpose gondola cars. However, it lowers the operating costs because it reduces the processing of empty gondola cars in movement and decreases their down-time at initial and terminal stations, thus permitting the rapid repayment of the capital investments for the elimination of the non-gauge areas and the reconstruction of the freight facilities on these routes.

The distribution of the shipments indicated and, correspondingly, of the fleet of new gondola cars along the individual railroads makes it possible to establish the areas in which the greatest requirement for this rolling stock exists. It follows from the table that in the future the highest specific weight of the fleet of new gondola cars for transporting coal under the conditions cited above must be on the East Siberian and Tselinnaya railroads, within whose bounds are located the most long-term coal basins--the Kansk-Achinsk and Ekibastuz ones. Most of the routes are local, circulating shipments within the limits of the railroad.

When preparing the yards of these railroads for the operation of circular routes of the increased-size gondola cars and, at the same time, when rebuilding the sectors for the passage of the new cars at the loading and unloading stations, it is necessary to improve empty car operation technology and their feeding while being loaded in order to maintain the safety of the circular routes and the stability of handling them.

To utilize the further reinforcement to the fleet of 8-axle gondola cars, we must also prepare other railroad routes and industrial sidings adjacent to them with a necessary increase in sorting facilities at the stations, and the laying of third braking positions in the hump yards.

Table 1.

The Portion of the 8-Axle Gondola Car Fleet on Routes, in Percentages

<u>Railroad</u>	<u>Total</u>	<u>In Local Service</u>	<u>With Movement to Other Railroads</u>
East Siberian	31.3	18.3	13.0
Tselinnaya	30.8	23.5	7.3
West Siberian	14.2	7.0	7.2
Donetskaya	6.8	-	6.8
Zabaykal'skaya	8.0	0.5	7.5
Northern	2.8	2.2	0.6
Moscow	2.4	2.4	-
Far Eastern	2.0	2.0	-
L'vov	1.7	1.7	-
Total	100.0	-	-
Including local service circular routes	-	57.6	-
With movement to other railroads	-	-	42.4

Simultaneously with this increase of the new gondola car fleet, the list of freight transported in them will be widened. However, until the limitations on the size of loading and unloading facilities are fully eliminated, it will be necessary, as before, to concentrate the new cars in individual regions of the system.

An analysis of the freight shipment plans for gondola cars throughout the receiving railroads and their actual fulfillment, as well as the plans to load freight in gondola cars (also throughout the receiving railroads) has shown that shipments in local service and on neighboring railroads make up the greatest portion of the patterns of the railroads. As the results of the statistical survey of data on shipments in local service and the

dissemination throughout the system's yards conducted by VNIIZhT have indicated, the portion of local service shipments in gondola cars amounts to 45-80 percent. The greatest share of shipping (60-80 percent) in local service and at the yard which the railroad enters, is characteristic of the railroad sidings of the system (on the Dal'nevostochnaya--80-82 percent, Zakavkazskaya--66, L'vovskaya--46-59, Pribaltiyskaya--60-65 percent). It is somewhat lower (30-40 percent) on the railroads located in the central regions of the system (on the Yuzhnaya--20-35 percent, Pridneprovskaya--36-40, Privolzhskaya--about 40 percent, etc.). The greatest portion of the intra-railroad shipments handled by gondola cars consists of mineral building materials (up to 60-80 percent), pit coal (up to 40 percent on the railroads of the central area, 60 percent in the Donbass and on the railroads of Siberia and the Far East.) Moreover, more than 30 percent of all shipments of mineral building cargo is handled by intra-railroad routes, including about 25 percent by closed rotation ones. The patterns diminish significantly (from 1-10 percent) as the receiving railroad is eliminated. This is characteristic both of all shipping and of shipping in gondola cars.

All of this allows one to conclude that it is advisable to prepare for the operation of the increased-size cars, primarily the yards of individual railroads which can immediately accept the new cars and use them in local shipping under conditions close to the multipurpose system of utilization.

To prevent difficulties in regulating the gondola car fleet, their concentration only on closed routes and individual railroads is permissible only at the first stage of introduction. An analysis of transportation in circular routes of intra-railroad service not only of coal but of other cargo has permitted us, as a guide, to determine the new gondola car fleets for the separate yards of the system. The greatest requirement for them in local shipping is on the Yug and Yugo-Zapad railroads (up to 31 percent) mainly because of shipments of mineral building cargo, coal and ore in the Donbass and Pridneprov'ye, and also on the Ural, Siberia, and Vostok railroads--up to 25 percent. The fleet is distributed about equally throughout the other yards of the system.

An analysis of the results of estimates of the required fleet of new cars, the distribution of freight and car flows on the system, and the control systems of the railroad car fleet has allowed us to establish that it is necessary primarily to carry out the basic work on preparing for the increased size and introduction of 8-axle gondola cars on the railroads of the Urals, Siberia and Kazakhstan, where the greatest growth in the output and consumption of coal and ore is planned. More than 35 percent of the entire system-wide volume of intra-railroad shipping of freight in gondola cars falls to the share of these railroads. Here it is necessary to concentrate around 34 percent of the fleet of 8-axle gondola cars used for these shipments.

The staging, calendar dates, and plans to carry out all of the required work on rebuilding the facilities on the railroads and industrial enterprises for providing the free passage of these increased-size cars must be mutually coordinated throughout the separate railroads and regions of the system which will speed up the amalgamation, disconnected at first, of the yards for handling the new cars. The successive broadening of such yards will increase the productivity of the gondola cars. This indicator will achieve maximum importance during the delivery of the increased-size cars for system-wide handling on a scale determined by the forecast of the growth of railroad transportation.

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TRANSPORTATION

DECREE DETAILS SHORTCOMINGS IN BELORUSSIAN URBAN PASSENGER TRANSPORT

Minsk SOVETSKAYA BELORUSSIYA in Russian 2 Aug 79 pp 1, 3

[BELTA report on Belorussian decree on urban passenger transport]

[Text] The Belorussian SSR Council of Ministers has adopted a decree which observes that in execution of the Belorussian Communist Party Central Committee and Belorussian SSR Council of Ministers decree "Measures for a Further Improvement in Passenger Transport's Service for the Public" and also the Belorussian SSR Supreme Soviet decree "The State of and Measures To Further Improve Motor Transport's Services for the Population of the Belorussian SSR" the Belorussian SSR Ministry of Motor Transport and the Belorussian SSR Ministry of Housing and Municipal Services, the oblispolkoms and the Minskiy Gorispolkom have implemented a number of measures for an improvement in the work of enterprises of urban passenger transport, the development of its production base, an extension and improvement of the network of roads, an increase in the technical readiness of the rolling stock, an increase in the number of vehicles in service and an increase in the standard of service of the public.

At the same time there are serious shortcomings in the operation of urban passenger transport. As shown by a check conducted in May 1979 by the Belorussian SSR Ministry of Finance, the Belorussian SSR People's Control Committee and the Belorussian SSR MVD, numerous disruptions of the schedules are allowed to occur everywhere in the republic, a large number of streetcars, trolleybuses and buses fails to appear for a variety of reasons, and there are instances of their premature return from their routes because of technical faults. On the majority of routes passenger transport is overburdened, particularly at "peak" hours, and the traffic scheduling is frequently not coordinated with the operating regime of the enterprises.

Serious oversights were also disclosed in the organization of passenger transport. Many drivers fail to remind the passengers of the need to have their tickets punched and do not announce the stops. The managers of the passenger transport enterprises, the auditing service and the inspectors are exercising poor control over observance of the transportation rules. Departmental supervision is organized extremely unsatisfactorily, in which connection violations of the transportation rules are not uncovered in the majority of cases.

The republic's urban passenger transport as a whole operates at a loss. There is a considerable loss of revenue because of the free travel of passengers in connection with the unsatisfactory organization of the sale of tickets and coupons for all types of urban transport and inadequate supervision of the operation of rolling stock in service. Thus a check conducted in Minsk revealed that of the passengers on trolleybuses 9.3 percent were without tickets, 13.9 percent were without tickets on streetcars and 21.3 percent were without tickets on buses; for Vitebsk's urban transport the figures were 17.1 percent, 8.8 and 8 percent respectively. There is a similar situation in many rayons of Minskaya Oblast.

Urban passenger transport enterprises are expending power, fuel and lubricants and spares in uneconomical fashion. Due attention is not being paid to the organization of socialist competition for economizing on fuel-energy resources and reducing expenditure on the maintenance and repair of the buses.

The above-mentioned shortcomings in the operation of urban passenger transport are giving rise to the citizens' justifiable complaints and testify that the leaders of the Belorussian SSR ministries of motor transport and housing and municipal services, the oblispolkoms and the Minskiy Gorispolkom have considerably depreciated exactingness toward leading workers of the passenger facilities for the state of passenger transportation and an improvement in the standard of service of the public. The necessary attention is not being paid to increasing the economic efficiency of the operation of passenger transport and strengthening the financial position of the above-mentioned facilities.

The Belorussian SSR Council of Ministers demanded that Comrade Andreyev, minister of motor transport of the Belorussian SSR, and T. Bezlyudov, minister of housing and municipal services of the Belorussian SSR, the oblispolkoms and the Minskiy Gorispolkom adopt effective measures for an improvement in the operation of urban passenger transport and a reduction in its unprofitableness.

It is essential to establish strict control over the operation of urban passenger transport and resolutely put an end to instances of buses, trolleybuses and streetcars being sent out in smaller numbers than provided for by the plan.

It is necessary to create in each facility the necessary reserve of rolling stock to replace the buses, trolleybuses and streetcars removed from the routes because of technical faults.

It is proposed that the responsibility of the managers of urban passenger transport enterprises for the high quality of service of the public, strict observance of the schedules and the sound technical and sanitary condition of the rolling stock be increased.

It is also necessary to examine the question of the reimbursement by industrial enterprises and construction organizations of additional expenditure in the event of the unprofitableness of the operation of transport on special urban routes organized for their workers.

It is proposed that the Belorussian SSR ministries of housing and municipal services and motor transport step up supervision of full payment of the journey on urban transport and the regularity of its operation and enlist inspectors more actively in this and insure the unconditional fulfillment of the established quotas and adopted socialist pledges for the economical expenditure of power, fuel and lubricants and spares.

A rate for the carriage of luggage on urban passenger transport (bus, trolleybus and streetcar) double the cost for the carriage of passengers in the given type of transport for each piece of luggage is established. The dimensions and weight of the luggage for whose carriage payment must be made will be determined by the Belorussian SSR ministries of housing and municipal services and motor transport.

The Belorussian SSR Gosplan is charged with solving the question of the organization in 1980 of the production of automatic machines in the republic for the sale of coupons for travel on urban passenger transport and their supply to the transport enterprises.

In conjunction with the Belorussian SSR ministries of higher and secondary specialized education and education and the Belorussian SSR State Committee for Vocational-Technical Education it is essential that the republic ministries of motor transport and housing and municipal services provide for the timely sale to students and schoolchildren of concessionary tickets for travel on urban passenger transport.

The Belorussian SSR Gosplan, Gossnab and Goskomsel'khoztekhnika are entrusted with insuring the allocation to urban passenger transport enterprises in accordance with the expenditure norms in effect of spares, goods and equipment for the repair and operation of buses, trolleybuses and streetcars and also with examining the question of the additional allocation to them of special motor vehicles and mechanisms.

For the purpose of improving the transportation of the population of the cities, particularly during "peak" hours, it is essential that the Brestskiy, Vitebskiy, Grodnenskiy, Gomel'skiy, Mogilevskiy, Minskiy, Baranovichskiy, Orshanskiy, Bobruyskiy, Mozyrskiy, Pinskiy, Polotskiy, Novopolotskiy and Lidskiy gorispolkoms provide within 1 month for the rational distribution of the time of the start and completion of the work of the enterprises and organizations.

For the purpose of intensifying the struggle against travel without tickets and the unpaid carriage of luggage on passenger transport there is an increase in the fine for traveling without a ticket and the unpaid carriage

of luggage on buses and jitney cabs of urban and suburban traffic and on urban electric transport (trolleybuses, streetcars) up to R1 and an expansion of the circle of officials with the right to impose this fine.

For the purpose of alining the financial plans of the enterprises of urban motor transport with the volume of passenger transportation the oblispolkoms and the Minskiy Gorispolkom have been entrusted with establishing prior to 1 April of the year preceding the year being planned, following coordination with the Belorussian SSR Ministry of Motor Transport, the bus routes, the overall mileage of the buses and the volumes of passenger transportation for the following year.

It is necessary for the Belorussian SSR Gosplan and Ministry of Finance to plan for the republic Ministry of Motor Transport the corresponding volumes of urban passenger transportation and also the revenue from the transportation and expenditure thereon.

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CSO: 1823

TRANSPORTATION

PROBLEMS OF CENTRAL SIBERIAN MAINLINE OPERATIONS VIEWED

Moscow GUDOK in Russian 24 Jul 79 p 2

[Article by N. Isingarin, chief engineer of the railroad: "A Comprehensive Approach is Needed"]

[Text] Within the Tselinaya [Virgin Lands] Railroad alone, it stretches more than 1,000 km from the Irtysh in the east to Tobol and Zolotaya Sopka in the west. The specific purpose of the railroad is to strengthen the transport ties between Siberia, the Urals and the Center of the nation. It will be of particular significance for developing the productive forces of Kazakhstan. When the section of Uritskoye--Kustanay is in full operation, the line will ship grain from the Virgin Lands, the Ekibastuz coal and other freight.

However there are many obstacles to be overcome on the path to implementing what has been outlined. In the first case, the trust Magnitogorsktransstroy [Magnitogorsk Transport Construction] during the first two years of construction used 6 million rubles less than was planned without having properly developed the work of the subcontracting organizations and the track-laying trains, and without having solved the question of supplying the project with rails, ties and other materials for the track superstructure.

But the problem is not only with the construction workers. Many complicated problems remain with the laying of the last link. These can be divided into external and those which involve only our railroad. Up to now there has been no clear definition of what freight flow will be handled over the mainline after completing the construction of the new Kustanay--Uritskoye line, and what growth can be expected on it in 5 or 10 years. And the technical equipping of the line depends on this.

As yet the mainline is being developed, if it can be so put, piecemeal. Its individual sections have been designed by different institutes, they were built in different years and using completely different standards. No one has given any thought to what the mainline would be as a whole.

At one time the leadership of the former Kazakh Railroad proposed that proposals be worked out on the comprehensive development of the Central Siberian Mainline. Such an assignment was given to Dneprogiprotrans [Dnepr Design Institute for Transportation] and this drew up the plans for reinforcing a 90-km section. Institute specialists worked out some proposals, however there was no proper follow-up.

Even now there is a lack of coordination in the work being done on the Central Siberian. Up to now here work has been carried out under five title lists. Next year another two sections involving reconstruction are to be opened up, and the same amount in 1981. The title lists have not been coordinated either in terms of dates, effectiveness or the comprehensiveness of the work. What happens as a result?

As an example, in 1979-1980 certain sections are to be equipped with centralized traffic control and a year later work should be started on laying the double tracks or double-track sections. And the expensive work must be redone.

Or another example. Recently there has often been the practice of building the double-track sections as the first stage of building the full double tracking. In Kazakhstan it has already happened repeatedly where without laying the last short section they had immediately to begin laying the double track. And this again caused significant useless expenditures on reequipping the automation and telemechanics. For analogous considerations, the electrification of the basic routes of the Central Siberian must be carried out after completing the construction of the double track.

The Central Siberian is not an ordinary section, but rather a mainline of the future, and it must be properly built. Our position is understood in the main administrations of the ministry, but it is essential that the USSR Gosplan also agree to changing the quotas which have been previously allocated to the institutes.

We feel that it is essential first of all to carefully examine the development level of all the sectors of the mainline's system and to determine clearly what installations should be built and at what time. This work should be assigned to one institute, for example, to Leningiprotrans [Leningrad Design Institute for Transportation]. In the first place, it designed the new Uritskoye--Kustanay line, and the laying of the double tracks on the basic sections. Secondly, next year it should work out all the specifications for building the double tracks on the 200-km section of Kokchetav--Tzyl-Tu. If the designing is not concentrated in one institute, it will be difficult to achieve a comprehensive solution.

Serious thought must be given to the questions of developing the locomotive system. And this question cannot be put off. Presently all the sections of the Central Siberian within our railroad are served by three locomotive depots in Kustanay, Peski-Tselinnyye and Kurort-Borovoye. The first two

are small, and do not have shops for repairing the locomotives on the level of the TR-2 program. Reconstruction of the Kustanay depot is planned. However the intended increase in its capacity will be capable of handling only that volume of shipments which is planned for the presently served sections and on the line as far as Novo-Uritskoye. The Peski-Tselinnyye depot is to remain virtually as it is, and will not be able to take additional locomotives. There is also the Kurort-Borovoye depot. But here electric traction will arrive in 2-3 years. And what will happen with the repairing of the locomotives operating on sections with diesel traction? For solving this vitally important problem even now construction must be started on a depot at Kokchetav.

The questions raised in this article, particularly on the locomotive system, are also well known to the planning bodies of the Ministry of Railroads and naturally to the locomotive main administration. The designing of a locomotive depot, for example, was proposed by the administration of the Tselinaya Railroad for incorporation in the plans of the 3 last years, but each time our proposal has been rejected. As a result, 3 years have been lost. And soon, when the car traffic on the Central Siberian Railroad will grow sharply, we will merely make a helpless gesture. Would it be possible not to wait until the car traffic has backed up, but rather take the necessary measures ahead of time?

One other problem. It is a paradox but on the entire Central Siberian Mainline within our railroad there is not a single car depot. In truth, there are plans to build one depot at Peski-Tselinnyye, but this is far from sufficient. The preliminary studies have shown the necessity of a depot at Kustanay, but as yet there not only is no plan but even a basic decision on this question.

We are also concerned by the condition of the track system. Light track was laid on the Central Siberian. It will not support the planned heavier-weight trains. The plans for strengthening the line and building the double tracks envisage also the replacement of the existing track, and the reinforcing of the embankment on the existing sections. However, all this work has been turned over to just our railroad. Even according to the most optimistic estimates, with a maximum output of the equipment, the two PMS [Track Equipment Stations] could carry out this work in not less than 7-8 years. It is not clear where the PMS are to come from. The railroad still does not have them. And of course such a length of time will not do. And again the main administrations of the ministry should take a decision without pigeon-holing the problem.

At present the question of a solid general contractor in our mind is very acute. The problem is that the Magnitogorsktransstroy trust is headquartered an excessive distance away from the work site, and the projects of the Central Siberian Mainline in essence have the status of an orphan. Unfortunately the Tselintransstroy [Virgin Lands Transport Construction] Trust which partially is working here, does not give proper attention to the new

construction project. And is it not time to think of setting up a construction organization which would be fully in charge of building the line and reconstructing it? This is required by the prospects of the Central Siberian where in 1981, the volume of construction and installation work should double, and by 1982, it should triple.

We are confident that the solution to the questions raised will help to significantly accelerate the putting of the steel artery into full operation and to dispense with subsequent expensive reworking. And the Central Siberian will become an important link in the nation's transport conveyer.

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TRANSPORTATION

TRAIN TRAVELS EAST WING OF BAYKAL-AMUR MAINLINE

Kiev PRAVDA UKRAINY in Russian 15 Jul 79 p 3

[Article by Ye. Bugayenko: "The Eastern Section Has Been Started Up"]

[Text] The first passenger train run has been completed on the eastern wing of the Baykal-Amur Mainline. It traveled more than 500 km, from Ural in the taiga to Berezovyy, which has already been connected by rail with the Pacific Ocean shore and its ports (through Komsomol'sk-na-Amur).

On this section, as on the whole 3,200-km length of the mainline, the builders encountered the caprices of permafrost, rushing mountain streams that are transformed in flood season into swift streams filled with rocks and logs, and great temperature drops that force the designers to seek out qualitatively new materials for machines and structures. Not far from Komsomol'sk the new railroad crosses the Amur, which at this location reaches a width of 5 km.

But now all this is in the past. What will startup of the eastern wing of the mainline yield?

The "silver spike," which was driven in accordance with tradition at the middle of the track between Ural and Berezovyy, at the Urkal'ta Railroad Yard, secures the Far East ring railroad.

The existing Trans-Siberian Mainline, which crosses the south of the Soviet Far East, goes to the ports of Nakhodka, Vladivostok and Vostochnyy. In 2 months branch rail lines 500-600 km long will go northward from it—to an intersection with the "Second Transsib" (as the BAM [Baykal-Amur Mainline] is now called). They will connect Khabarovsk with Komsomol'sk-na-Amur and the Izvestkovyy Railroad Yard with Ural. The ring has joined developed regions of the south of Khabarovskiy Kray with northern regions which are lightly populated but rich in natural resources: deposits of coal, manganese, iron ore and tin and great forest reserves are concentrated there.

But even this is not all. Even today the railroad's mainline goes from Komsomol'sk-na-Amur to two new port cities on the Tatar Strait—Vanino and

Sovetskaya Gavan'. Vanino is being transformed before our very eyes into a huge seaport, through which cargo for northern regions of the Soviet Far East and for export will be shipped. A special ferry crossing 144 n.m. long, which joins the continent with northern Sakhalin, is also in operation here.

And it is planned to create in the area adjacent to the mainline's east wing 2 regional production complexes (Urgal and Komsomol'sk) of the 11 whose birth is associated with construction of the BAM.

With startup of the eastern section of the Baykal-Amur Mainline, a new era in the assimilation and development of the Far East has commenced.

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TRANSPORTATION

LYUDINOV PLANT PRODUCES DIESEL INDUSTRIAL SWITCHER

Moscow IZVESTIYA in Russian 23 Feb 79 p 1

[Article by A. Koptsov (Lyudinovo, Kaluzhskaya Oblast): "Lyudinovo Diesel Locomotives"]

[Text] At many large plants, ore mines and underground coal mines, small but powerful industrial switcher engines are working that do still another job--they unload dump cars with their compressors. The Lyudinovo Order of Labor Red Banner Diesel-Locomotive Manufacturing Plant, which spreads its buildings out along the shore of picturesque Lake Lompad', produces these machines. Lyudinov diesel-locomotive makers have placed more than once in the socialist competition among heavy and transport-machine building enterprises.

The Main Directions for Developing the USSR's Economy During 1976-1980 called for mastering the production of 2,000-hp diesel industrial switchers. The Lyudinovo plant was charged with resolving this task.

"The new machine," says plant director I. Nikiforov, "incorporates a large number of original design ideas. All of them have been successfully realized, thanks to close collaboration with scientific-research institutes and the studious efforts of the whole collective."

In almost every department I was told that the workers had become good helpers of the designers. Several hundred innovators' suggestions arrived at the chief designers' section alone.

Mechanics' brigade leader Ye. Buturlin from the assembly department helped to improve the design and the technology for installing the air lines. A creative group of the delivery department, which included engineers, technicians and workmen, proposed to assemble the piping and cabs on special assembly tables and stands, which speeded up the work and reduced metal consumption....The plant's collective wrote this into its socialist commitments for the fourth year of the five-year plan: prepare the new diesel locomotive for certification for the Emblem of Quality.

Deputy chief plant director L. Minkhal'chuk and I passed along the whole production chain, from the forging to the painting and delivery department. And everywhere a precise work rhythm was felt. All departments are now operating under a zero-defects' system for manufacturing output. Of the total product, 97 percent is turned over on first presentation. About 400 production workers have won the right to put their personal stamp on the output.

"The diesel locomotive can bear the honorary emblem only when each component and each part have been made with good quality, conscientiously. And so we are striving to work conscientiously, to greet the day of elections for the USSR Supreme Soviet in worthy fashion," electrician V. Kharlamov told us.

The requirements for machinery are growing constantly in our day, and it is not easy to satisfy it. Lyudinovo's machine builders are managing to do so. Here, in particular, the design for the new TEM-12 diesel locomotive has been developed, on which, for the first time in domestic locomotive manufacturing an electrical transmission with a group drive for the wheel pairs has been installed. This has made it possible to dispense with two wheel pairs, four traction motors and other components and to save much metal on each locomotive, including red copper. These machines also have a large number of other advantages--magnetic rail brakes, more powerful compressors for unloading dump cars....In brief, the diesel locomotive has become much lighter and, at the same time, stronger and more flexible, reliable and durable. Working conditions for the driver have been improved appreciably. The cab is high, with a panoramic view and a compact and simple control panel.

The machine is now undergoing interagency tests and has already received good assessments by both production workers and staff workers of the scientific-research institutes. Industrial enterprises, ore mines and underground coal mines will receive still more diesel locomotives with the Lyudinovo plant's brand.

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TRANSPORTATION

EDITORIAL URGES BETTER LATVIAN FREIGHT CAR OPERATIONS

Riga SOVETSKAYA LATVIYA in Russian 29 Jun 79 p 1

[Editorial: "A Steady Pace for the Transport Conveyer"]

[Text] Day and night the steel lines of our republic hum. The speed of the trains is increasing, and the weight and length of the freight consists are growing. The railroad workers are endeavoring not to fall behind the pace of industrial production, and are endeavoring to more rhythmically provide the enterprises with the necessary raw materials and to dispatch the finished products more rapidly. The collectives of the Riga, Daugavpils and Elgava divisions of the Baltic Railroad over the 5 months have loaded around 1,500 tons of freight above the plan, they have handled 6,790 heavy consists, and in comparison with the same period of last year, they have reduced the above-norm rolling stock stoppages by 2-fold.

However the industrial and agricultural enterprises are continuing to experience a chronic shortage of railroad cars, the average stoppage in loading as before is above the norm, and a series of freight has arrived at its destination late. At the Riga freight yard, each day hundreds of tons of important products remain unloaded. All of this has told negatively not only on the operating indicators of the railroad workers, but also many other labor collectives.

It would be wrong to place all the blame here on the railroad workers. The railroad is just one, although the most important, link in the republic transport conveyer, and the structure of this conveyer each day is becoming more complex. Its rhythmical operation depends equally upon the work of the transport services of the enterprises and organizations, the motor vehicle combines and the seaports.

At present the basic reserves for improving the operation of the transport conveyer are concentrated at the enterprises themselves. This is eloquently seen from the 300,000 rubles in fines paid by the freight recipients for the above-norm stoppages of cars. While the railroad workers work on any day of the week and at any time of the day, for a majority of enterprises freight

is received and dispatched only on workdays and often on one shift. And thus the transport conveyer can be at one minute crowded and the next empty.

Many enterprises and organizations, in causing such arrhythmia, at the same time are not ready to receive large batches of freight. They have a small unloading front, the warehousing system has been poorly developed, and they lack equipment for mechanizing freight handling operations. All of this leads to unjustified car stoppages. In the present year, these are particularly high at the enterprises and organizations of the ministries of the building materials industry, procurements, Sel'khoztekhnika, and the State Committee for Material and Technical Supply. At the same time a reduction in car stoppages at the freight recipients by an average of just 30 minutes would make it possible to release rolling stock for transporting 300,000 tons of freight for the republic economy during the year.

Individual freight dispatchers make irrational use of the capacity of the boxcars and flatcars. Inspection weighings have shown that in the present year, one-third of the cars has been underloaded by 1.6 ton. The workers of the Riva and Plyavinyak quarries and the Yekabpils Building Materials Production Association are particularly often guilty of this.

Serious difficulties are caused by the not always justified shipments which under various pretexts are forced on the railroad workers by certain ministries and departments. For example, does it make any sense to transport cement from Brotseny to the Kuldiga Reinforced Concrete Structures Plant to the station of Stende by rail and then by motor transport, although the route by just highway would be four times shorter? "This is better for us," explain the managers. Quite possibly since the rail shipments are much cheaper than the motor transport ones. But who can put departmental interests higher than state ones?

There must be an improvement in the coordination between the rail and motor transport workers. They work professionally and hand in hand in Rezekne, Daugavpils, and at Tornyakalna Station. But there are quite different relations between the collectives of the Riga Freight Yard and the Motor Vehicle Combine No 1. "The railroad workers do not create conditions for us for efficient operation," complain the motor transport workers. But the station workers do not know how to force their associates to remove the freight on time. As a rule, on Saturday and Sunday the motor vehicle combine allocates less than one-half of the required amount of motor transport.

There are also reserves at the Riga and Ventspils seaports, where due to the nonobservance of the ship arrival schedules the car stoppages in loading operations sometimes exceed the tolerable norms. Wider use must be made of handling the cargo under the "vessel-car" system.

The railroad workers themselves have much to do to accelerate freight handling. Serious attention should be given to introducing the advanced experience of the Maslovites in all the railroad divisions, as they have proposed accelerating freight shipments by increasing the weight and length of the trains. This requires not only a rise in the professional skill of the locomotive brigades, but also special modernization of the freight, track and station systems. There must be even wider development of block routing of the shipments, and an increase in the amount of freight deliveries in containers and pallets. The collectives of the Riga Freight Yard, the Riga Railroad Division for Freight Operations, the Motor Vehicle Combine No 1 and associates at the other railroad junctions must improve the freight processing procedures more tenaciously and consistently.

There are reserves for improving transport operations everywhere. The search for and use of them are best carried out by the method of the workers at industrial and transport enterprises in Chelyabinskaya Oblast, the slogan of which "from reciprocal complaints to mutual aid" is well known also in Latvia. Life has shown that at present associates can make many valid complaints against each other. But the speed of handling the freight scarcely can be substantially increased by this. But if the ways to solve arising problems are sought out together, a great deal can be achieved. For example, the railroad workers of Brotseny Station and the employees of the Brotseny Cement and Slate Combine are firmly convinced of this. Here, due to coordinated work and a competition among associates, car stoppages have been continuously reduced, the static load has been increased, and freight is dispatched and received ever more rhythmically.

A number of ministries have made it a practice to hold joint board meetings with employees of motor and rail transport. In many cities there are councils for coordinating freight traffic and processing. It is important to see to it that coordinated actions appear not only in elaborating plans of measures, but also in implementing them, at each section and at each work area. And here the communists have the first word in solving this problem. For, as was stressed at the November (1978) Plenum of the CPSU Central Committee, the party organizations everywhere should provide the transport services with the necessary help in improving operating efficiency. Providing a steady rhythm in the transport conveyor is a constant duty for all the collectives in industry and transport.

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TRANSPORTATION

IMPROVEMENT IN GEORGIAN FREIGHT OPERATIONS URGED

Tbilisi ZARYA VOSTOKA in Russian 30 Jun 79 p 3

[Article by G. Matitashvili, head of the Department for Transportation and Communications of the Georgian People's Control Committee: "To Accelerate the Turn-Around of Railroad Cars"]

[Text] Each year the volume of national economic freight shipments increases in our republic. In order to satisfy the needs of all the sectors of the economy for shipments, it is essential to have the wider and fuller use of the existing reserves and possibilities, and to extend advanced experience everywhere.

However, a number of ministries, departments, enterprises and organizations have still not taken to heart the instructions of the CPSU Central Committee given in the decree on the organizational work of the Chelyabinskaya CPSU obkom to reduce the stoppages of railroad cars in loading operations and to increase the level of mechanizing freight work. Suffice it to say that out of the 174 sidings in the republic during 1978 and the first quarter of 1979, the given standard for car stoppages was met by only 101, and this is 17.6 percent of their total number. Over the same period, 232,800 cars were held up for 2.3 million car hours, and this deprived rail transport of the opportunity to ship many hundreds of thousands of additional tons of national economic freight within the republic. There were systematic stoppages of railroad cars delivered to the enterprises of the Georgian ministry of building materials industry and procurements, the Georgian Sel'khoztekhnika, and others.

Such a situation in unloading the cars can be explained primarily by the unsatisfactory work of the freight recipients. A majority of the ministries, departments, associations and enterprises has not taken the proper measures to organize around-the-clock and double-shift unloading of the cars on all days of the week. As a result the unloading of railroad cars at night is just 17.7 percent.

As of 1 May 1979, 12,908 tons of national economic freight had accumulated at the railroad stations of the republic. A significant portion of this freight belongs to the ministries of rural construction (3,242 tons), agriculture (807 tons), and Tsekavskiri (863 tons). Can these and the other departments eliminate the overstoppage of the cars? A check on the state of affairs indicate that for imposing order it is essential first of all to man the staff of transport workers, and to also think out and correctly organize the car handling process.

With the overall bad state in the use of railway cars in the republic, the railroad workers themselves permit their unproductive stoppages. The cars stand waiting for almost two-thirds of the time at their ultimate destination on the sidings or to leave from the station or are involved in the switching process. In 1978, the republic did not fulfill the standards for car stoppages in a single freight operation. With a standard of 21.1 hours, in actual terms it was 24.1 hours.

The guilty parties have been strictly punished by the Georgian People's Control Committee for the failure to take effective measures to make rational use of the railroad cars, for permitting their above-standard stoppages and for the irrational use of motor transport and containers. The leadership of the Georgian ministries of procurements, building materials industry and agriculture, the Georgian Sel'khoztekhnik and the administration of the Transcaucasian Railroad has been instructed to review the materials of the check, to outline and implement the necessary measures to improve car use and to apply measures against persons who have shown irresponsibility and mismanagement on this question.

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TRANSPORTATION

PROCEDURES FOR IMPROVING SOVIET MERCHANT SHIPPING ACCOUNTS

Moscow MORSKOY FLOT in Russian No 5, 1979 pp 16-17

[Report by I. Levin, chief of the Ministry of Maritime Fleet Planning and Currency-Finance Department, and I. Starikov, candidate of economic sciences: "Disbursement Account")

[Text] The operation of Soviet merchant shipping on international voyages involves visits to foreign ports for loading-unloading operations, bunkering, repairs and other operations. Carrying foreign trade cargoes, Soviet ships annually visit more than 1,120 ports of 110 countries.

For each ship's call at a foreign port the merchant shipping company pays the dues and charges for services in effect at the said port. Insofar as the shipowners do not have the opportunity of paying directly all the dues and charges for services rendered the ships in foreign ports they conclude contracts for ship's agency services with foreign firms.

In the Ministry of Maritime Fleet the choice of the corresponding agencies in foreign ports and the conclusion of contracts and agreements with them for servicing Soviet ships is undertaken in centralized fashion by the "Sovinflot" All-Union Foreign Trade Association--the general agent of Soviet shipowners.

The agency undertakes to insure the speediest and high-quality handling of the ship with the least expenditure for the latter. It pays the port authorities and various firms various bills for the servicing of the ship in the corresponding foreign port and draws up the consolidated disbursement account. This requires of its employees a detailed knowledge of the local conditions connected with the handling of the ship and the payment of dues and services and also the choice of certain attendant firms--tugboat, pilot, mooring, stevedoring, ship chandler and others--participating in the complex process of handling the ship in a seaport.

The disbursement account is the consolidated account for expenditure on servicing the ship in port paid by the agency for the shipowner. The disbursement account includes the various types of port dues and payments for the services rendered the ship in the process of its maintenance.

The application in certain foreign countries and frequently in the ports of a single country also of numerous types of dues and payments for services had led to the great variety of the forms of disbursement accounts forwarded by the agencies to the Soviet merchant shipping companies.

For the purpose of systematization and the increased quality of the compilation and checking of disbursement accounts the "Sovinflot" All-Union Foreign Trade Association has drawn up in conjunction with the Soyuzmorniprojekt a standardized form of disbursement account. The introduction of this form will be positively reflected in the organization of the settlements and afford an opportunity of utilizing the "Morflot" automated control system.

The disbursement account formulated by the agency is forwarded to a foreign bank of the port wherein the agency is located in the event of a letter of credit having been opened in the name of the agency for payment of the disbursement accounts and to the appropriate merchant shipping company to which the ship belongs in the event of the shipping company having transferred to the agency part payment for the servicing of the ship in this port (and also if the disbursement account is to be paid by a transfer of funds via the USSR Foreign Trade Bank).

The consolidated disbursement account should be drawn up by the agency in accordance with the terms of the agency agreement, and all supporting documents (vouchers) corroborated by the administration of the ship or the "Sovinflot" All-Union Foreign Trade Association representative in this port should be appended thereto.

Thus the disbursement accounts are received directly by the merchant shipping company from the agencies in the event of them not having been paid by the shipping company or from the Ministry of Maritime Fleet Central Foreign Exchange Agency in the event of them having been paid from letter of credit funds.

A special place is occupied by the disbursement accounts presented for payment in paying-in form. This type of settlement is employed between merchant shipping companies and agencies in the socialist countries which are members of the International Bank for Economic Cooperation. Irrespective of whether they have been paid or not, these accounts are forwarded to the shipping company by the Ministry of Maritime Fleet Central Foreign Exchange Agency. The disbursement accounts received by the shipping company should be checked thoroughly and in good time.

The checking of the disbursement account involves an intricate complex of operations. It is organized differently in individual shipping companies.

The checking of the accounts consists of the following operations: a formal check; a check on the substance of claimed expenditure; a check on the rates and rules and customs in effect in foreign ports; an arithmetical check; a comparison of the claimed expenditure with accounting and current data;

and claims work and correspondence with the agencies apropos the results of the checking of the accounts.

In the merchant shipping companies the disbursement accounts are checked in the finance-currency department (or in a financially autonomous operational group of ships). Each type of check enumerated above has a definite purpose.

The purpose of the formal check is primarily to show that the disbursement account belongs with a given shipping company. The name of the ship and the port and the date of the ship's call at this port are checked for this. This data is collated with the current register of traffic on international voyages. Then the supporting documents bearing the signatures of representatives of the ship or representatives of the "Sovinflot" All-Union Foreign Trade Association are checked out.

Following the formal check, it is essential to verify the disbursement account according to substance, that is, the correctness of the addition and submission of each item of expenditure. For this it is essential to ascertain the terms of the shipment of freight on the ship, bearing in mind that certain purchasing and sale contracts concluded by the Soviet Union's foreign trade associations with foreign purchasers and dealers frequently stipulate the complete or partial attribution of certain types of expenditure to the foreign firms. This condition applies most often to settlements for stevedoring operations in foreign ports. In addition, it is essential to check whether or not the ship was operating on the time-charter, whose terms usually provide for the foreign charterer's payment of all the ship's operating expenditure.

It is essential to pay particular attention to a verification of stevedoring expenditure insofar as it is reimbursed by the ship only in the event of this having been stipulated by the terms of the purchase or sale contract. It is essential here to take into consideration the fact that the ship, as a rule, reimburses stevedoring expenditure for the railing-hold haul during the loading of freight and hold-railing during the unloading of freight.

In the event of the stevedoring company including in the disbursement account the entire complex of stevedoring expenditure from dockside to hold, including the stowing of the cargo, the shipping company acquires the right to reimbursement for the increased expenditure from the Ministry of Foreign Trade's foreign trade association. It is essential here to insure the appropriate official registration of the disbursement account and the supporting documents appended thereto in order that they clearly indicate the additional charges of stevedoring expenditure for the entire complex of operations from dockside to hold or from hold to dockside on the basis of the rules and customs of the foreign port. Given observance of these conditions, the shipping company has the right to obtain from the appropriate foreign trade associations the cost of actually reimbursed stevedoring expenditure in the hold-dockside haul less the amount of stevedoring expenditure recovered earlier in accordance with the rates of the current price list.

The shipping companies should pay particular attention to a verification of the correspondence of the payment for the services in the disbursement accounts to the rates and rules and customs in effect in foreign ports. For this reason the agency is required to forward to the shipping company in good time the entire complex of rate schedules and supplements thereto in effect on the given date. Subsequently the firm is obliged to regularly notify the shipping company of all further changes in and supplements to the rate schedules. Verification of the disbursement account is a complex process requiring profound commercial and financial knowledge.

Different designations of specific items of expenditure are employed depending on the principles of the collection of port dues and charges for services in foreign ports, which requires a special examination of each item of expenditure. Certain types of port dues are added on depending on the ship's technical economic specifications, the time of its handling in port and certain other data.

In checking each type of port dues it is essential to determine the principle of its calculation and its dependence on certain parameters of the ship.

The technical-economic specifications used to calculate expenditure--dead-weight, gross registered tonnage, net registered tonnage, length of the ship and others--are checked first of all. All this is compared with the ship's data sheet. Subsequently the correctness of the employed wage rate depending on the terms of the handling of the ship in a specific foreign port is checked out.

Following comparison of the accounting data shown by the agency in the initial documents--the vouchers--it is necessary to turn attention to the correct indication of the accounting parameters, the official registration of documents and the filling in of the essential requisites envisaged by the standard forms. The ship's administration must thoroughly check and clearly register all the initial supporting documents insofar as expenditure will subsequently be totaled on the basis thereof. As a rule, all these documents require the signature of the ship's captain (or the captain's senior assistant). The ship's administration must exercise special supervision upon the calculation of charges for the services of tugboats, berthing hawser workers and pilots and other items of similar expenditure insofar as it is in these initial documents that mistakes and sometimes exaggerated upward distortions even are most frequently encountered.

Together with a thorough check of totaled expenditure in accordance with the ports' rates and rules and customs there is an arithmetical check of each document and item of expenditure. In a number of instances such a check is connected with the application of the computation units encountered in international practice and also with the transfer of certain units of foreign currency to others. It is essential that control of these transfers and settlements be exercised with the help of guides and recommended computation aids.

In checking the disbursement accounts it is essential in a number of instances to make a verifying comparison of the data shown in the initial supporting documents with the accounting and current data on the movement of the ship, the time of the start and completion of the piloting and berthing operation, the time of operation of the tugboats, the amount of fuel and water taken on and other data.

Sometimes it is advisable to compare the supporting documents appended by the agency to the disbursement account with the copies of these documents appended by the ship's captain to the ship's log. This makes it possible to use the method of the collation of analogous documents in addition to the conventional methods of checking the correctness of the registration of documents. The disbursement accounts are best checked by comparing a number of accounts for one and the same foreign port.

In the event of the detection in the disbursement account of some technical or arithmetical mistakes or others which have led to an increase in the totaled expenditure or to other deviations from and violations of the terms of the agency agreement the agency is sent a letter of complaint which sets out the essence of the complaint. If the agency has calculated excessive and unjustified expenditure, steps should be taken for the stoppage of payment or handover of such sums.

Claims work in settlements with foreign firms is of tremendous significance. Such letters should be signed by the shipping company's finance-currency department chief and the chief accountant. The letters are written in accordance with the rules and conditions of international business correspondence with the employment in certain instances of standard appeals, phrases and concluding expressions. Copies of the claims letters remain attached to the disbursement account, in the shipping company's finance-currency department and with the executant for checking the firm's reply.

An evaluation should be drawn up on the results of each complaint and submitted to the finance-currency department chief for the adoption of the appropriate decision.

Copies of the shipping companies' claims letters should be sent to the "Sovinflot" All-Union Foreign Trade Association and also to their representatives abroad for practical assistance to be rendered the shipping company upon an examination of the contentious issues with the agency.

The most serious complaints about the firms acting as agents and also the procedure of servicing the ships should be examined at special negotiations which could be organized both where the shipping company is located and also in the country of residence of the firm acting as agent.

The main purpose of claims work is to improve the system of settlements and increase the efficiency of the work of ships on international voyages.

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TRANSPORTATION

STATUS OF SOVIET MERCHANT FLEET AT START OF YEAR

Moscow MORSKOY FLOT in Russian No 5, 1979 p 3

[Soviet merchant fleet statistics]

[Text] Data on the USSR Merchant Fleet on 1 January 1979 (self-propelled maritime shipping with a gross tonnage of 100 and more register tons)

Class of ship	Steamships		Motorships		Total	
	No. ships	Gross tonnage, reg. tons	No. ships	Gross tonnage reg. tons	No. ships	Gross tonnage reg. tons
Passenger ships and cargo liners	8	126,717	210	529,220	218	655,937
Dry cargo ships	119	643,639	2,170	9,284,636	2,289	9,928,275
Oilers and gas carriers	38	1,282,932	421	3,368,814	459	4,651,746
Support and auxiliary ships	107	85,227	701	384,234	808	469,461
Fishing vessels	77	160,250	2,862	4,514,352	2,939	4,674,602
Service craft	19	18,958	389	332,369	408	351,327
Others	6	47,609	358	478,419	364	526,028
Total	374	2,365,332	7,111	18,892,044	7,485	21,257,376

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TRANSPORTATION

VOYAGE OF SOVIET MERCHANT SHIP FOLLOWED

Moscow MORSKOY FLOT in Russian No 7, 1979 signed to press 1 Jun 79 pp 28-29

[Article by V. Viktorov: "One Voyage of a Ro-ro"]

[Text] The dock workers in Leningrad were hard at work. In a little over two days they unloaded the ro-ro "Mekhanik Tarasov" and rolled Soviet passenger cars destined for West Germany onto its decks. Although the voyage was starting in Rotterdam, the cargo for the intermediate port was in no way excessive, and the crew was grateful to the dispatchers for providing them with some useful cargo.

It was the end of March and growing warmer. However the ice in the sea canal and gulf still remained heavy. After the loading the ship departed for the channel to await passage through the ice, while its berth was taken by the ro-ro "Skul'ptor Vuchatich" which had a top deck full of containers.

In the channel everyone's attention turned to the old-timer, the "Kolonna." The steamship was so close that we literally looked down into its vertical smokestack from the extended part of the bridge. But in no way were we scorning it. Even though the steamship was not flying a flag (the ship had been retired), its glory still lived. We recalled the notable innovative achievements of the crew of the first Baltic container ship, its work slogans and its aversion to inefficiency. The time of the old steamships has passed but the old traditions continue. The men of the "Kolonna" made their mark in the fight against idle time. The crew of the "Mekhanik Tarasov", which hoisted its flag in 1976, began setting its own records in combatting this problem from the very beginning. Their achievements, of course, are in no way comparable. In the past they were trying to save thousands and tens of thousands of rubles, today we are dealing with hundreds of thousands. And here we sat fully loaded for six hours awaiting passage through the ice. Unfortunately ships have to wait longer in their own ports. This was hardly a comforting situation for a crew which was an initiator of socialist competition in increasing efficiency and performing high quality work.

At midnight the ro-ro raised anchor and proceeded into the sea canal. Towards daybreak, following the ice-breaker "Kapitan Nikolayev" through the

Gulf of Finland, we ran into delays. At various stages in the crossing the ice-breaker had to break out one of the ships in the 10-ship caravan. This trying experience in the ice put the ro-ro almost two days behind schedule. These two days meant that there would not be enough time to stop in Hamburg and take on cargo in Rotterdam before the onset of non-working days. This was an individual case, but unfortunately, not an uncommon one. The time spent on crossing the Gulf of Finland in winter must be reduced by eliminating lengthy delays in the ice zone. The heavy ice conditions increase the wear and tear on the hulls, shipboard gear and various equipment. And so the problem of additional ice-breakers for winters in the Baltic is still critical. Even one additional powerful ice-breaker, which is specially assigned for conducting large ro-ros and container ships through the ice, would help to alleviate the situation. The expense of maintaining it would be easily covered by revenues stemming from more stabilized operations on international lines in the winter.

After the heavy ice the ro-ro ran into a dense fog. There had to be an increased watch on the bridge right up to the Kiel Canal. The canal was negotiated with relatively good visibility. Moving into the Elbe the fog again moved in up to the Wedel area. It was reminiscent of a greeting in the Russian language. The ro-ro had hardly aligned itself with the shore-based signal towers, when we heard from loudspeakers: "Soviet ship! Welcome to our city!" We were extremely happy to hear this traditional greeting at the time, since we had just gone through a particularly difficult portion of the voyage.

The tying of the stern to the dock at the terminal without the aid of tugs was the final step in the crossing. The ro-ro was turned around in the small basin like a manouverable loader in a tight corner of the hold. A ramp was then run to the shore. This was all done simply and precisely. And this is the way it should be on the splendid ships of the "Mekhanik Tarasov" type, where the men have only the best of equipment.

The cargo was dropped off at the Hamburg terminal and the "Mekhanik Tarasov" departed for Rotterdam. The time spent awaiting loading, which covered part of Saturday and Sunday, was used for conducting needed ship work and also the crew's rest and relaxation. The men were able to go ashore and play soccer with an international group from ships docked nearby. Incidentally, that Sunday turned out to be the only free day on the 67 day voyage.

The cargo loading plan at Rotterdam turned out to be a real creative effort on the part of 2d Mate Leonid Aleksandrovich Chabanenko. After the radio-gram on the taking on of cargo was read at the cargo dispatcher's office, they could not understand how so much equipment could be taken on the ro-ro. The only thing they could do was to accept the communique and await the return of the "Mekhanik Tarasov," when they could reconstruct the arrangement of airport passenger loaders, metal-parts packets, homes on wheels, containers, etc. through photographs. Such photos are normally made on the top deck. But even below it there was hardly any unutilized space, which was

confirmed by the paperwork and size of the freight charge. The chief of cargo dispatcher's office No 4 Vladimir Mikhaylovich Zubchenkov and dispatcher Valeriy Ivanovich Ivanov in meetings with the men endeavored to uncover in detail, how this was done so that a "full box" was obtained. The experience of the sailors of the "Mekhanik Tarasov" proved to be of value to the cargo dispatcher's office and was passed along to other crews.

This time the cargo dispatcher's office left the selection of the cargo up to the crew. Inasmuch as the sizes of the varied machinery and non-standard trailers were somewhat overstated in the shipping documents for insurance purposes (which is sometimes done), Chatanenko began by determining their dimensions. And only then did the mate undertake the cargo plan.

The better the cargo is secured in port, the better the weather will be at sea. This rule, which has been confirmed by generations of sailors, greets you in the form of a proverb when you stop at the ship's bulletin board. As with the majority of our ro-ros, the crew of the "Mekhanik Tarasov" often lashes down the cargo on their own and usually without the help of dock workers, if the port rules allow it, and also remove the lashing. This has become a part of the primary duties of the men, which they approach seriously by improving the way and means of cargo fastening in order to insure trouble-free transit and keep the cargo in good condition, to increase the carrying-capacity of the ship, and to reduce layovers.

According to data from the Central Scientific Research Institute of the Merchant Marine, the ro-ro is capable of accepting 363 passenger cars on the main deck and 2 car decks. The crew worked out a loading plan which permitted an additional 50 cars in the same space. By taking on board only "small ones", the men showed that it was possible to ship up to 660 cars at once. They all were securely fastened down, which incidentally the representatives of Avtoekspert, as well as the crew of the ro-ro "Inzhener Machul'skiy" which is known for its innovative work, did not initially believe.

The 3d Mate Viktor Ivanovich Morozov, lathe worker Igor' Vasil'yevich Pikovs, senior engineman Boris Isaakovich Krylov, and others can drive both Soviet and foreign cars. Frequently all of them have to use their skills in loading and unloading cars in foreign ports. Boatswain Valeriy Valentinovich Zen'kovskiy is considered the equipment expert on the ship. In courses from the shipping company he mastered the use of port equipment, i.e. he acquired knowhow which is highly valued on specialized ships, and they have their own fork-lifts and loaders. Without the boatswain behind the wheel loading operations could not be carried out.

What did the ro-ro take aboard in Rotterdam? Various models of passenger cars, truck-mounted cranes, large-wheeled and caterpillar tractors, 45-ton bulldozers, buses, campers, boats on trailers, spare parts for construction equipment on trailers, and of course, containers. The cargo space was completely filled. The goods were headed for Iran, Kuwait, Dammam, which is in Saudi Arabia, and the port of the United Arab Emirate, Abu-Dhabi. They were

from the United States sent through Rotterdam. Approximately 70 percent of the total value of the freight charge was the "Mekhanik Tarasov's" share for handling the shipment. Pretty good earnings, don't you think?

On the way the ro-ro made only one stop for fuel at the Spanish port of Algeciras. Later came the Suez Canal and after it the first port of call, where the ship remained at the dock for scarcely more than a day. Altogether the ro-ro needed less than six days to visit all four ports in the Persian Gulf, deliver the goods to them, and take on a small number of empty containers and roll-on trailers. Incidentally, the crew helped to reduce the layover time in the Arab ports. Thus, at Abu-Dhabi the men rolled the whole cargo out of the hold onto the dock in two hours without the help of port workers. After this the ro-ro proceeded to Barcelona for a consignment of Fiats for European ports.

In Barcelona the "Mekhanik Tarasov" took on 550 cars and departed for Bordeaux with the top deck free. On the way a second fueling stop was made at Algeciras. Upon arriving at the French port the ro-ro began loading some heavy equipment. The loading took two days. The huge steel pieces destined for a chemical plant were placed on the top deck within spaces marked off with chalk according to the cargo plan. The areas between them were filled with small items of the same shipment.

It was quite interesting to look from the shore of the Gironde at the ro-ro as it was moving toward the ocean with the setting sun behind. The 11 large sections, 8 meters high, blended with the outline of the ship in the twilight giving it a fantastic appearance. But the crew was occupied with other thoughts at the time. They were awaiting confirmation from the cargo dispatcher's office in Leningrad, that a floating crane and barges would be available for unloading the heavy sections. Also, despite the spring storms and fog in the North Sea they wanted to deliver the cars to Hamburg and Esters, realizing that the next Sunday would come between stops at the two ports.

Everything went as planned. Neither fog nor storm kept the ro-ro from its time-table. It reached the Leningrad approach buoy exactly on time. Here we assumed a pilot would be sent out to the ship without delay. This was all the more important since the unloading was to be accomplished in the channel area and a berth was not needed. But we had to wait more than three hours for passage and also the unloading began quite a while after our arrival in port. The men always resent such delays. They did everything they could to make the voyage an efficient and high-quality trip. How can you help but be annoyed when you pass the baton to the port workers and they drop it.

Of course, due to the port workers part of the operating time of the ro-ro went down as what we call idle time in our ports. But on the whole the work of the crew on this voyage, as on the vast majority of others, was quite impressive and led the crew to first place in socialist competition among basin sailors in the second quarter of 1978.

For their excellent work the top members of the group were awarded decorations from the All-Union Exhibition of the National Economy. Captain Anatoliy Mikhaylovich Ponomarev received a gold medal, chief engineer Arkadiy Sergeyevich Danilov - a silver medal, and lathe operator-engineman Igor' Vasil'yevich Pikus - a bronze medal. The work of other men on the ship was rewarded with certificates and diplomas from the exhibition. And senior engineman Boris Isaakovich Krylov returned from the voyage wearing the order of Labor Glory 3d degree.

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TRANSPORTATION

OPERATIONS OF SUDOIMPORT DISCUSSED

Moscow MORSKOY FLOT in Russian No 7, 1979 signed to press 1 Jun 79 pp 16-18

[Article by O. Kropotov, general director of the foreign trade association "Sudoimport": 'Foreign Trade Association "Sudoimport"']

[Text] In 1954 the All-Union Foreign Trade Association Sudoimport was created to handle the exporting and importing of ships, ship equipment and spare parts, as well as ship repair abroad. It is now the sole agency in the country performing this work, having replaced the ship department of the foreign trade association Transmashimport.

Although Sudoimport was established primarily as an import association, its export operations have been growing rapidly. Many of our series produced ships are being sent to other nations -- CEMA members and also many capitalist and developing countries. During the 25 years since 1954 the association's import operations have increased 5.2 times, while export activities have grown more than 30 times. Over this period the association has exported 2,320 various ships and floating units, including 136 large-tonnage ships, 123 hydrofoils (not the launch type), 143 fishing and fish-processing vessels and 597 auxiliary ships and dredging units.

The USSR has delivered the following types of ships to socialist countries: "Paltika" type ore carriers, 16,300 and 1,500 ton tankers, 13,450 and 14,950 ton general cargo and container ships, various size docks and floating cranes, hydrofoils, dredges and auxiliary ships, and other floating units.

Many companies in capitalist and developing countries purchase our ships on a regular basis. Thus, the "Kuwait Shipping Company" acquired thirteen 13,600 ton dry-cargo freighters and three in the 16,700 ton class. The Swedish firm "Valenius Shipping Company" purchased four 38,250 ton ore carriers and the West German firm "Hamburg South" bought three 13,300 ton dry-cargo freighters. Buyers of Soviet ships also include one of the largest shipping companies in England - "Ocean Trading", the West German firms - "Wineta", "Junimar", "August Bolten" and "Rawenna", the Norwegian companies - "Gerards", "Skelbreds" and "Noreksim Shipping" and "Abis", the Belgian firms - "Compan" and "Maritime Belgium", etc.

In addition, a large quantity of various types of ship equipment, representing a significant portion of the association's exports, has been sent out to many countries. This equipment is being exported to over 30 nations of the world, including CEMA members, Austria, the Netherlands, Italy, Singapore, Yugoslavia, Turkey, France, Japan, and others. The equipment includes diesel engines of from 1,500 to 21,000 horsepower, diesel generators, electric motors, pumps, compressors, various types of deck apparatus, and radio-navigation instruments and gear --a complete line of equipment for outfitting ships.

The formation of Sudoimport in 1954 as an independent foreign trade organization was a well-timed move in view of the growth in trade in ships and ship equipment and the need to arrange complicated reciprocal deliveries involving specialization and cooperation in the production of ships, floating units and ship equipment among all socialist countries - CEMA members - as well as to develop economically profitable relations with developed capitalist and developing countries.

The association maintains permanent business ties with over 50 foreign trade organizations of socialist countries, as well as with shipbuilding firms in practically all nations with which the USSR has diplomatic and trade relations. Soviet customers of the association - buyers of imported ships, floating units and ship equipment - total nearly 40 various ministries and departments, not counting the organizations and enterprises subordinate to them (shipping companies, plants, etc.). The largest of these are the USSR Ministry of the Maritime Fleet, USSR Ministry of Fish Industry, USSR Ministry of the River Fleet (RSFSR), USSR Academy of Sciences, USSR Weather Service, etc.

Besides ships and floating equipment, the association exports a large amount of ship equipment and spare parts, services the products it sells abroad, and performs repairs on foreign ships in the USSR. Part of the equipment sent abroad is destined for installation on ships being built for the USSR, which means reduced monetary outlays and lowers expenditures for spare parts which become necessary as the ship is used. The other portion of the exported equipment goes to foreign trade organizations of socialist countries and foreign firms for their own needs, which in a number of cases are for installation on ships of third countries.

It is very important to coordinate the orders issued for the construction of ships abroad with shipments of a broad range of parts and accessories for outfitting them (from navigators' compass-dividers to powerful diesel engines), and also with purchases of equipment made by foreign buyers for their own needs. Sudoimport has direct contact with hundreds of Soviet enterprises which supply products for export, and funnels them into a steady flow which then, having spread out into a multitude of streams, must reach their point of use within the time period specified in the export contracts. The foreign trade association Sudozagrannostavka of the USSR Ministry of Shipbuilding and similar associations of other departments provide Sudoimport a great deal of assistance in this work.

The availability of spare parts both for ships purchased abroad and those exported plays an important role in the association's activities. The list of these spare parts runs into tens of thousands of items, and a shortage of just one of these items can lead to a ship not operating.

Ships are constantly on voyages and are frequently out of their home ports for months on end. This makes their regular servicing and maintenance more difficult. We try to provide the most efficient ways of handling the servicing which are most agreeable to the purchaser.

Ship owners of socialist countries annually order spare parts within the limits of trade protocols. In emergencies, of course, spare parts are sent to them directly from plants in the shortest possible time. Buyers in capitalist countries use the services of consignment facilities of the West German firm "G. Albert" (Bremen), an agent of Sudoimport for servicing maritime ships. From this warehouse spare parts can be delivered to buyers in any port in the world within two-three days. Consignment warehouses and repair bases are also found in Italy, Finland, West Germany, Yugoslavia, England, Bangladesh, Greece, Cuba and other countries for the timely and proper servicing and delivery of spare parts. For providing technical assistance to crews of ships which were exported, the association assigns highly qualified Soviet specialists to each ship. The extensive training of local personnel is also conducted. The training sessions are held both in the USSR and in the purchaser-country as well. A large number of Soviet specialists on the ships, equipment and instruments, exported by Sudoimport; annually go abroad to teach and render technical assistance.

Sudoimport has agent agreements with 10 large firms which call for not only the sale of goods being exported by the association in the appropriate nations; but also activities involving a variety of services, such as servicing, technical personnel training, commercial information and advertising.

Sudoimport participates in international fairs and exhibitions, and also sets up its own specialized shows, for the purpose of publicizing the association among business circles and the foreign community, and for providing the marketplace more information on its export program. The association traditionally takes part in such international trade fairs as the ones in Leipzig (East Germany), Hannover (West Germany), Damascus (Syria), Izmir (Turkey), Baghdad (Iraq) and Pacific Ocean (Lima). In 1978 the association held specialized shows in Germany (Berlin), United States (New York), Greece (Salonica), Colombia (Bogota) and Norway (Oslo). In 1979 it plans to hold six shows, a demonstration and operational display of the "Kometa" hydrofoil.

While the plants and various equipment which are imported by the majority of other foreign trade associations handling machinery are later installed, tested and adjusted in the USSR, the ships and floating units must be ready for productive, efficient and safe usage immediately upon receipt. This places increased demands for quality on all stages of their development -

from the design phase to the finished product. The association enlists specialists from the various ministries and departments involved for handling the plans and coordinating the technical specifications. The association has available abroad a whole group of inspectors formed from the most qualified and experienced specialists recommended by Soviet ship purchasers: hull experts, ship machinists, electricians, and refrigeration mechanics. These inspectors perform their duties under the guidance of Sudoisport representatives in the field. The final acceptance of the ships is conducted by state commissions which contain representatives of the Soviet buyers and the association.

Through the efforts of the association Soviet shipbuilders carry on broad scientific and production dialogues with their foreign colleagues in many nations of the world, regularly meet for exchanging work experience, and perform joint scientific and experimental-design endeavors.

The cooperation between Soviet specialists and CEMA nation shipbuilders is quite extensive.

When concluding import and export transactions, the association conducts technical and commercial talks with the foreign trade organizations of socialist countries and foreign firms, which result in contractual agreements and the establishment of mutually acceptable prices for ships and the conditions for their delivery. All this, as with the daily monitoring of compliance with the contracts, requires a thorough knowledge of technical, economic and legal details, including an understanding of a nation's laws, the regulations and commercial customs in various countries.

In 1978 the party and government decided to reorganize the all-union associations of the Ministry of Foreign Trade USSR into cost-accounting foreign trade associations due to the increased export operations and the growing role of Soviet foreign trade organizations in them. Sudoisport completed this reorganization and as the association of firms involved in export and import of ships and ship equipment received new a symbol, creating a single image of the association, making it more visible in the marketplace, and improving the effectiveness of advertising. The association is now made up of nine specialized firms: Sudotransport - for exporting transport, dredging and fishing ships and units, as well as hydrofoils; Sudoflot - for importing maritime transport and fishing ships; Sudotekhflot - for importing river ships and dredging units; Sudoshel'f - for exporting and importing of sea drilling equipment, servicing ships and apparatus for oil exploration and extraction on continental shelves; Sudodizel' - for exporting and importing of ship diesel engines, diesel-generators and production cooperation with countries on diesel engines; Sudomekhanizm - for exporting and importing ship machinery; Sudoelektro - for exporting and importing radio-navigation equipment; Sudoservis - for exporting spare parts and servicing ships and their equipment; and Sudoremont - for exporting and importing ship repair services and the importing of spare parts.

Due to its intensive development our maritime trade fleet is third in the world in the number of ships and seventh in total tonnage. Over a period of many years the USSR river and fishing fleets have been the largest and best equipped in the world. In accordance with the decisions of the 25th CPSU Congress our maritime fleet should be adding dry-cargo and combination ships, plus tankers, totalling approximately 5 million tons during the 10th Five-Year Plan. We also expect to further develop river transport by adding various types of ships, including combination river-sea ships and ice-breakers, supplement the fishing fleet, further expand geological exploration operations for oil and gas in sea and ocean shelf zones, and increase our comprehensive scientific research in the world's oceans.

The broad development of economic and scientific-technical ties with foreign countries will play an important role in resolving these tasks in accordance with the decisions of the 25th CPSU Congress. Inspired by the historic decisions of the 25th CPSU Congress which followed the plenums of the Leninist Central Committee and by the statements of L. I. Brezhnev on the basic problems of economic development under developed socialism, the people at Sudimport and its party, trade union and Komsomol organizations will henceforth resolve the tasks facing them with even more dedication.

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TRANSPORTATION

DEVELOPMENT PROBLEMS OF INTEGRATED PORT OPERATIONS VIEWED

Tallin SOVETSKAYA ESTONIYA in Russian 26 May 79 p 2

[Article by M. Ushakov, coworker of the newspaper MORYAK ESTONII: "The Traffic Zig Zags"]

[Text] A system of intercoordinated planning for the work of the sailors, port workers, railroad workers and motor transport workers, as is known, was first employed in Leningrad, and made it possible to improve the indicators for all the sections of the transport conveyer.

Thus, in the previous year of 1978, here the volume of processed freight rose by 37.5 percent, the passage of cargo through the port was reduced by 2 days, and around 8,000 units of rolling stock was released by accelerating the processing of the cars. The economic effect of introducing the new system was around 3 million rubles.

The CPSU Central Committee had high praise for the initiative of the Leningraders, and recommended that all the transport workers of the nation take measures to disseminate this. This is a short prehistory.

In Tallin, the transport center was set up on 1 July of last year. It included the Estonian Maritime Navigation Company, the Estonian Division of the Baltic Railroad, the Maritime Commercial Port, the Tallin Railroad Station, the Tallinavtotrans [Tallin Motor Transport] Association and the Tallin Office of Soyuzvneshttrans [All-Union Foreign Transport Association].

Great hopes were placed on the new system, but, it must be admitted, they as yet have not been realized. Moreover, the operating indicators for its participants at present have even worsened.

On the first of April of this year, almost 5,000-10,000 tons of various cargo had accumulated in the port, and a third of the cargo had been there over a month. For comparison, we should say that the year before each of the two figures was 5-fold less. The main task of accelerating cargo deliveries to the recipient have not been met.

The system is slipping. We can mention the basic reasons for this: the railroad workers have fulfilled the orders of the port workers by 60-70 percent, and the port dispatcher's office receives information on the delivery of the railway cars late. And lastly there is the poor operating rhythm in the port. Thus, just one-third of the daily quota is carried out here in the first half of the day.

The port has endeavored to establish a rhythm in cargo handling operations. For these purposes a special brigade was organized and this was concerned exclusively with railroad cars. It was led by the experienced leader I. Petraytis. But soon thereafter this collective was broken up.

"The team arrived for work," recalled Petraytis, "and two cars had been prepared for it, but as a minimum we needed 3-fold more. The dispatcher promised that the remainder would arrive. And so, we gathered together and waited for the promised cars to turn up. And in fact they did, but we had to reorganize and lost time in moving. Labor productivity declined and we lost in wages. As a result, the collective broke up."

It must be pointed out that the work of the brigade was under the special supervision of the deputy port chief B. Mal'nik. A report was drawn up each day. However, in looking through it, the figure 100 can be seen rarely, and most often the brigade fulfilled the plan by 70-80 percent. Understandably such a situation was not to the liking of either the leaders or the dock workers. And one other reason for the breaking up of the brigade was the absence of complete and early information. The Leningrad port workers receive information on the freight 2 days before the arrival of the cars, in other words, the depth of information is 48 hours. And in Tallin it was just 8.

It must be pointed out that the plan for the following work day was approved by the port chief at noon of the previous day, when the dispatcher meeting was held in order that the participants could make the necessary corrections in it.

"But what about the railroad cars?" I asked the assistant port chief for railroad operations, B. Popov.

"We do not include the handling of the cars in the plan being compiled. The railroad workers do not promptly provide the necessary information. For this reason the number of car brigades is determined hypothetically for the next day."

Certainly under such conditions it is very difficult to plan and organize normal operations.

Let me give a rather characteristic example. The chief of one of the freight areas, A. Butov, endeavored to learn at the port dispatcher office when the required 40 gondolas would arrive. The dispatcher replied that the area would receive 6 gondolas in 3 hours, but beyond this he did not know since

the railroad workers could not provide any definite information. The problem was that the train would take about 4 hours from the terminal stations of the Estonian Railroad Division of Volga and Narva to Tallin, and approximately the same number of hours would go for switching. And these 8 hours for the railroad workers are an unique "information ceiling." Under such conditions it is impossible to plan port operations. Is there no way out of this infamous circle?

"No," said the deputy chief of the road division R. Toding, "the situation is far from hopeless. We, the railroad workers, must simply maintain a closer contact with collectives in Riga and Leningrad."

This was said a year ago, but since then the depth of information has still not increased. And the hypothetical planning, as the port chief A. Lukoshkin recently complained, continues in the port. The operations schedule includes a hypothetical number of railroad cars, hypothetical times for processing them and a hypothetical departure of the ships. But the ships are real ones. If the port had prompt information, the stoppages could be much less.

One other problem. A certain portion of the unproductive stoppages in the port is inevitable. In bad weather it is categorically prohibited to process many types of cargo. And in fact, if cement must make a month-long journey in the hold of a diesel vessel, the slightest wetting will produce a useless stone instead of powder. Cocoa beans and paper are just as demanding, and since the weather in the Baltic is capricious, in the literal sense of the word, both the ships and the railroad cars wait for the weather by the sea. The waiting gives rise to stoppages, and, as a consequence, a shortage of cars. And this is a rather ordinary situation. A diesel vessel arrives carrying paper. It is not unloaded because the warehouses are overflowing, as they say, "to bursting" (not enough cars were provided previously). The cars stand idle, and it would be better to unload them under the direct variation, that is, from the car directly into the hold of the ship. Otherwise empty cars are needed and they are not available.

In Leningrad in the event of such unforeseen circumstances they have planned to create a spare fleet of railroad cars. In Tallin as yet there is no reserve and the limit of our hopes is 15 additional plans above the plan. But precisely this point evoked the sharpest disputes among the members of the coordinating committee which summed up the operating results of the transport center during the first quarter. They argued over 15 cars while each day 200 (!) cars stood idle every day on the tracks of the Tallin freight yard. Certainly, the coordinating committee is unable to solve the entire range of problems to free the station of unproductive stoppages, but it is completely capable of reducing them.

Thus, if Tallinavtotrans fulfilled its duties to the railroad workers, then each day they could unload 15-20 cars more than at present, and certainly precisely these two score "extra" cars could help the port rectify the situation.

The decision of the coordinating committee of 27 April states: "The Tallin-avtotrans Association and the city freight yard are to take measures to eliminate the backing up of the cars." The question may arise: why has the decision been taken only now, and why were no measures taken previously? The answer to this question to a certain degree can be found in the information of the station master A. Golubev on the work of one day in May:

"The situation with the vehicles has somewhat improved, but it cannot be called good. For example, today the vehicle operators shorted us 10 vehicles, and as before their arrival schedule is violated."

Thus, the decision of the committee, to put it mildly, has not been fully carried out. And this is far from the only instance.

"The decisions at times are not carried out because," said the executive secretary of the coordinating committee B. Popov, "the committee cannot impose decisions on anyone. It merely recommends. It does not have the right to demand."

Both the railroad workers, the port workers and the motor vehicle workers remain at fault, each has its problems, but these stem primarily from a lack of coordination. The time has come--and this is the opinion of many transport workers who belong to different departments--to give the force of an order to the committee's decisions in order that the violators can be held accountable and forced to carry out their obligations.

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TRANSPORTATION

BRIEFS

NEW HARVEST BEING MOVED--The first diesel locomotive--the Volga-Don 227--with grain from the new harvest has arrived at the capital. At West Port they started to unload a ship yesterday. Golden Kuban' wheat poured in a thick stream from portal-gantry crane buckets into freight cars. In order to prevent all losses of it, all the rolling stock had been reequipped for grain. The main amount of transshipping here is being done in accordance with the direct "ship to freight car" variant. This has enabled cargo handling to be speeded up greatly. Collaboration with the railroaders and motor-vehicle workers enabled the port's workers to organize the operating process with precision. The freight cars that were intended for transporting the grain are now moving over a closed circuit: port to receiving point to port. Shipping time for the cargo has been greatly reduced.
[Text] [Moscow MOSKOVSKAYA PRAVDA in Russian 18 Jul 79 p 1] 11409

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